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Final Report

Cost Evaluation of Federal Motor Vehicle Safety Standard  
210 - Passenger Cars and Evaluation of Cost and Weight  
Trends for Standards 201, 203 and 204 - Passenger Cars  
Volume: I



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16. Abstract The consumer cost and weight effect on 1983 vehicles, to comply with FMVSS 201, 203 and 204 as determined by a process of teardown analysis of those components affected by the Standards.  The Standards cover: FMVSS 201 - Occupant Protection in Interior Impact, VOLUME I* FMVSS 203 - Impact Protection for the Driver from the Steering Control System, VOLUME I FMVSS 204 - Steering Control Rearward Displacement, VOLUME III  A pre, post and trend cost and weight effect of complying with FMVSS 210 as determined by detail analysis of those components affected.  The cars selected for this study were to be high volume representatives of all the various size classifications and, as near as possible, carry-over models or direct descendants of those in previous related studies. The sampling also includes cars downsized by weight reductions, recently redesigned smaller, more efficient vehicles with four and six cylinder engines, rack and pinion steering and front wheel drive.  *This document is VOLUME I (see above).					
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## PREFACE

Pioneer Engineering has conducted a cost study of components affected by:

- FMVSS 201 - Occupant Protection in Interior Impact
- FMVSS 203 - Impact protection for the Driver from the Steering Control System
- FMVSS 204 - Steering Control Rearward Displacement
- FMVSS 210 - Seat Belt Assembly Anchorage

This work was performed under Contract DTNH22-83-C-06007. The objective of the study was to develop cost trends of the components required to meet these Standards. These costs were developed by selecting a sampling of automobiles that are produced in a relative high volume and were representative of a majority of those sold in the United States. Components from the sample vehicles were obtained and detailed cost were derived through reverse engineering analysis and detailed processing. The resulting cost data indicates the magnitude of the economic impact on the industry and the consumer from the implementation of these Standards. All cost data were based on on third quarter 1984 economics.

This contractor, Pioneer Engineering and Manufacturing Company, has conducted numerous previous "teardown" analyses for the NHTSA and private industry. The methodology for both conducting the "teardown" analysis and determining the estimated costs from actual part manufacturing process analysis has been developed and perfected by over 15 years experience in this type of work. The cost estimating techniques employed in the analysis are based on current automotive industry practice to assure real world consumer price values.

The contractor acknowledges the contributions of its staff, the automotive manufacturers, the Motor Vehicle Manufacturers Association and automotive trade publications. Special acknowledgement is made to the Contract Technical Manager, Mr. Warren LaHeist, for his contributions and helpful reviews throughout the program.





## INTRODUCTION

The objectives of this contract were as follows:

- Determine the cost effect (trend cost) that Federal Motor Vehicle Safety Standards:
  - FMVSS 201 - Occupant Protection in Interior Impact
  - FMVSS 203 - Impact Protection for the Driver from the Steering Control System
  - FMVSS 204 - Steering Control Rearward Displacementhad on 1983 automobiles and also to make a determination of the affect of downsizing, weight reduction and front wheel drive may have had on the cost of implementing these Standards. These Standards were implemented in 1968.
- Develop Pre, Post and Trend Cost Comparison of:
  - FMVSS 210 - Seat Belt Assembly Anchoragesfor full, mid, compact, sub-compact, foreign cars, multi-purpose vehicles, and both standard and light-weight pickup trucks.

The basis for the above price determinations is the "teardown" and analysis of system components from selected vehicles representing comparable makes/models prior to and after the effective date of the Standards. All of the cost information is therefore compiled from actual changes made by the manufacturers to assure compliance with the requirements specified in the FMVSS.

The analysis of design changes between comparable vehicles highlights those resulting from implementation of the Standards and those made for other reasons, such as styling, cost reduction or other functional improvements not associated with the requirement of these Standards. The analysis also provides the material type and weight of all components in the systems. For those components identified as changed because of the Standards, a detailed, or Micro-Cost Analysis, was conducted to determine the variable manufacturing costs. This analysis is based on a complete manufacturing process study which provides material, labor and burden costs for each part plus the costs of assembly operations.

A Macro-Analysis of the major U.S. automobile manufacturer's financial statements was utilized to determine the ratio of cost of goods sold to income from sales which

in turn provided an average ratio of variable manufacturing cost to manufacturers wholesale price. An analysis of dealer discounts in the automotive industry provided a typical ratio of wholesale price to consumer price. A summation of the component consumer price changes for each set of comparable vehicles provided the net consumer price effect of the specified Standards.

The quantity of pages generated by this effort has dictated that this report be presented in three (3) volumes. This volumes includes text for the entire report, and the data for Standard 201. Volume II contains the data for Standards 203 and 204; Volume III contains text for Standard 210.

## SUMMARY

The intent of FMVSS 201 is to offer passenger car occupants as much protection as practical from obstructions, projections and hard places in the passenger compartment that may cause injury in the course of an accident.

This study obtained, from the list of 1983 cars tabulated below, those safety components related to FMVSS 201 and made a detailed weight, material and process analysis of each item. The current cost effect that each safety feature had on each car was then determined. The costs developed in this study indicate total costs, not differences or changes related strictly to the Safety Standard.

### MAKE AND MODEL IDENTIFICATION OF VEHICLES USED IN COST SAMPLING PLAN FOR FEDERAL MOTOR VEHICLE SAFETY STANDARD 201

NUMBER	MAKE	SIZE*	MODEL
01	Chevrolet	Standard	Impala-Caprice
02	Chevrolet	Intermediate	Malibu
03	Chevrolet	Compact	Cavalier
04	Ford	Standard	Crown Victoria
05	Ford	Intermediate	Fairlane-LTD
06	Ford	Compact	Mustang
07	Chrysler	Standard	5th Avenue
08	Chrysler	Intermediate	"E" Class
09	Chrysler	Compact	Valiant-Reliant
10	A.M.C.	Subcompact	American, Gremlin, Alliance
11	Toyota	Subcompact	Corona, Tercel
12	Nissan	Subcompact	Sentra

\*Size Classification Per Automotive News

An analysis of all the affected components, across the sampling of vehicles, indicated that most high and middle line, pre-Standard vehicles were in compliance, prior to the effective date, especially in the areas associated with luxury or comfort such as additional seat back protection, padded sunvisors and arm rests, key released



positive latch glove compartment doors, and some instrument panel padding (most were at least vinyl covered). The low line or economy vehicles, with painted instrument panels, unpadded sunvisors and arm rests, and glove compartment doors held shut with a detent or friction type catch, as a rule, had the largest safety compliance cost.

The Alliance glove compartment latch is a good example of cost effective design. They use a one piece plastic latch and integral return spring that costs less than \$0.05. The average cost of the components required to perform the same function for the cars in the study is \$0.31. It seems styling and design are sometimes more of a cost penalty than safety.

## GLOVE COMPARTMENT DOOR LATCHES

Per FMVSS 201, each interior compartment door shall remain closed when subjected to an interior load of 10G, or a 30 MPH head-on collision. At one time most manufacturers used an indented or friction catch on the glove compartment door, especially on the low line cars. FMVSS 201 made it necessary to use a positive latch and striker that would not release until a button was depressed or a key turned.

The cars studied indicated an interesting spread in cost and weight. The most costly latches are the lockable ones; i.e., General Motors, Ford and Chrysler models. The locking feature appears to be a penalty of approximately \$.60 to \$.75. Ford save \$.30 to \$.35 and about .15 pound each by using a plastic injection molded housing. The two Japanese models use non-locking push button release mechanisms. Sentra's lock housing is plastic. The AMC Alliance four cent (\$.04) latch is by far the most innovative of those included in the study. It is a one piece, sliding plastic latch. Even the return spring is an integral part of the injection molded latch. The striker is simply a rectangular hole in the instrument panel.

TABLE 1

## GLOVE COMPARTMENT LATCH ALL COSTS ARE PER CAR

VEHICLE MAKE/MODEL PART #	NO.	COST	WT. LB.	\$/LB.	NO. PCS.	HOUSING MATL COST (02)	REL. KNOB & SPRING (03 & 04)	LOCK HSG. RETAINER (07)	KNOB LOCK HSG. (09)	LATCH (12)	TUMBLERS & SPRINGS (13 & 14)	STRIKER (15)	ASSY (01)	SAFETY ITEMS 03, 04 12 & 15	OTHER * COST
Chevrolet Cspice	1	1.57	0.26	6.04	12	ZINC 0.13	0.34	0.05	0.07	0.03	0.07	0.05	0.71	0.50	0.12
Chevrolet Malibu	2	1.28	0.28	4.57	10	ZINC 0.15	0.32	—	0.06	0.06	0.08	0.07	0.49	0.50	0.05
Chevrolet Cavalier	3	1.57	0.26	6.04	12	ZINC 0.13	0.34	0.05	0.07	0.03	0.07	0.05	0.71	0.50	0.12
Ford Crown Victoria	4	1.14	0.12	9.50	12	PLASTIC 0.03	0.06	0.01	0.07	0.03	0.08	—	0.79	0.17	0.07
Ford LTD	5	1.14	0.12	9.50	12	PLASTIC 0.03	0.06	0.01	0.07	0.03	0.08	—	0.79	0.17	0.07
Ford Mustang	6	0.83	0.09	9.22	9	PLASTIC 0.04	0.02 (04 ONLY)	0.01	0.04	0.01	0.08	0.02	0.60	0.10	0.01
Chrysler Fifth Ave.	7	1.42	0.29	4.90	13	ZINC 0.14	0.34	—	0.06	0.03	0.05	0.08	0.63	0.53	0.09
Chrysler "E" Class	8	1.42	0.30	4.73	12	ZINC 0.14	0.34	—	0.06	0.03	0.06	0.07	0.63	0.52	0.09
Plymouth Reliant	9	1.42	0.30	4.73	12	ZINC 0.14	0.34	—	0.06	0.03	0.06	0.07	0.63	0.52	0.09
AMC Renault/Alliance	10	0.04	0.01	4.00	1	—	—	—	—	0.04	—	—	—	0.04	—
Toyota Tercel	11	0.39	0.12	3.25	7	ZINC 0.08	0.04	—	0.05	0.03	—	—	0.16	0.10	0.03
Nissan Sentra	12	0.30	0.04	7.50	5	PLASTIC 0.02	—	—	0.07	0.07	—	—	0.10	0.09	0.04

\*This chart contains a list of parts whose costs have a significant effect on the cost difference of the safety features between car lines.

Other costs include those remaining components whose cost varies little from car to car.



TABLE 2

## GLOVE COMPARTMENT LATCH

VEHICLE MAKE/MODEL	VEHICLE NO.	A SAFETY SYSTEM COST	B NO. OF VEHICLES PRODUCED	C WEIGHTED COST (A X B)
Chevrolet Caprice	1	\$1.57	676,907	\$1,062,743
Chevrolet Malibu	2	1.28	978,105	1,251,974
Chevrolet Cavalier	3	1.57	1,168,189	1,834,056
Ford Crown Victoria	4	1.14	152,454	173,797
Ford LTD	5	1.14	420,858	479,778
Ford Mustang	6	0.83	219,159	181,901
Chrysler Fifth Ave.	7	1.42	123,684	175,631
Chrysler "E" Class	8	1.42	119,009	168,992
Plymouth Reliant	9	1.42	338,652	480,886
AMC Renault/Alliance	10	0.04	142,205	5,688
Toyota Tercel	11	0.39	147,965	57,706
Nissan Sentra	12	0.30	<u>209,889</u>	<u>62,967</u>
TOTAL			4,697,076	\$5,936,119

Safety System Weighted Average Cost = \$1.26.

Safety System Weighted Average Cost - Column B Total Divided By Column A Total.

## WINDOW REGULATOR HANDLES

Some pre-standard cars used a two piece, crank and knob assembly, both of which were chrome plated zinc die castings. The knob portion of the window regulator extended into the passenger compartment approximately 2.0 inches and represented a safety hazard upon which an occupant could be injured if thrown against it in the course of an accident. All post-standard vehicles now use a more pliable plastic or rubber knob. The General Motors, Ford and Chrysler regulators have chrome plated die cast cranks and soft plastic knob assemblies. The Alliance, Tercel and Sentra use a simple two piece plastic crank and knob which are nearly a dollar a door less expensive.

TABLE 3

WINDOW REGULATOR HANDLE			FRONT DOOR			1 RT. & 1 LT.			ALL COSTS ARE PER CAR				SAFETY ITEMS 22, 22A 24, 25, 26 27, 28 & 29
VEHICLE MAKE/MODEL PART #	NO.	COST LB.	WT. \$/LB.	NO. PCS.	NOB. MATL COST (22A)	HANDLE MATL COST (21)	GROMMET (24)	SHAFT (25)	CAP (26)	KNOB ASSY (22)	SPRING & SPACER (27, 28 & 29)	ASSY HANDLE	
Chevrolet Caprice	1	2.95	0.47	6.28	7	Plastic 0.04	Zinc Chrome 1.75	0.20	0.08	0.08	0.06	0.38	0.82
Chevrolet Malibu	2	2.94	0.47	6.26	7	Plastic 0.04	Zinc Chrome 1.74	0.20	0.08	0.08	0.06	0.38	0.82
Chevrolet Cavalier	3	2.95	0.47	6.28	7	Plastic 0.04	Zinc Chrome 1.75	0.20	0.08	0.08	0.06	0.38	0.82
Ford Crown Victoria	4	2.66	0.56	4.75	7	Plastic 0.04	Zinc Chrome 1.80	—	0.04	0.04	0.10	0.48	0.38
Ford LTD	5	2.64	0.55	4.80	7	Plastic 0.02	Zinc Chrome 1.81	—	0.04	0.04	0.10	0.47	0.36
Ford Mustang	6	2.65	0.56	4.73	7	Plastic 0.02	Zinc Chrome 1.81	—	0.04	0.04	0.10	0.48	0.36
Chrysler Fifth Ave.	7	2.37	0.40	5.93	6	Plastic 0.04	Zinc Chrome 1.70	0.02	0.02	0.04	0.04	0.14	0.53
Chrysler "E" Class	8	2.32	0.38	6.11	5	Plastic 0.04	Zinc Chrome 1.70	0.02	0.02	0.04	0.36	0.14	0.48
Plymouth Reliant	9	2.32	0.38	6.11	5	Plastic 0.04	Zinc Chrome 1.70	0.02	0.02	0.04	0.36	0.14	0.48
AMC Renault/Alliance	10	0.69	0.24	2.88	5	Plastic 0.02	Plastic 0.19	—	0.04	—	0.14	0.20	0.30
Toyota Tercel	11	0.75	0.18	4.17	2	Plastic 0.25	Plastic 0.36	—	—	—	—	0.14	0.26
Nissan Sentra	12	0.75	0.18	4.17	2	Plastic 0.25	Plastic 0.36	—	—	—	—	0.14	0.26

TABLE 4

WINDOW REGULATOR HANDLE FRONT DOOR 1 RT. &amp; 1 LT.

VEHICLE MAKE/MODEL	VEHICLE NO.	A SAFETY SYSTEM COST	B NO. OF VEHICLES PRODUCED	C WEIGHTED COST (A X B)
Chevrolet Caprice	1	\$2.95	676,907	\$ 1,996,876
Chevrolet Malibu	2	2.94	978,105	2,875,629
Chevrolet Cavalier	3	2.95	1,168,189	3,446,158
Ford Crown Victoria	4	2.66	152,454	405,528
Ford LTD	5	2.64	420,858	1,111,065
Ford Mustang	6	2.65	219,159	580,771
Chrysler Fifth Ave.	7	2.37	123,684	293,131
Chrysler "E" Class	8	2.32	119,009	276,101
Plymouth Reliant	9	2.32	338,652	785,673
AMC Renault/Alliance	10	0.69	142,205	98,121
Toyota Tercel	11	0.75	147,965	110,974
Nissan Sentra	12	0.75	<u>209,889</u>	<u>\$ 157,417</u>
TOTAL			4,697,076	\$12,137,418

Safety System Weighted Average Cost = \$2.58.

Safety System Weighted Average Cost - Column B Total Divided By Column A Total.



## INTERIOR DOOR RELEASE HANDLES

At one time, most inside door release handles were crescent shaped, chrome plated zinc die castings and extended into the passenger compartment enough to cause injury if an occupant happened to be thrown against it. Most current door release handles are either built into the arm rest or flush with the door inner trim panel. The large cost difference (Caprice \$4.25 to Sentra \$.92) is apparently due to material selection dictated by styling or design and not specifically for safety reasons. All those studied were assumed equally safe. General Motors, Ford and Chrysler high line cars have the most costly door release handles (\$4.25 to \$3.82). All use a chrome plated zinc die cast handle and steel housing or well. The Reliant, Malibu, Cavalier and Alliance use similar handles and plastic housings or no housing at all. The remaining five (5) cars use plastic handles and Sentra, the least costly (\$.92) uses no housing.

TABLE 5

DOOR RELEASE HANDLES      FRONT DOOR      1 RT. & 1 LT.      ALL COSTS ARE PER CAR

VEHICLE MAKE/MODEL PART #	NO.	COST	WT. LB.	\$/LB.	NO. PCS.	HOUSING MAT'L COST (52)	HANDLE MAT'L COST (53)	RETURN SPRING (55)	BUMPER (56)	ROLL PIN (57)	DUST SHIELD (58&63)	ASSY COST (51)	BRKT & PIN (60)	PAWL & PIN (64&65)	LOCK (67)	SAFETY ITEMS 52, 56, 57 60, 64, 65 67 & # of 51	OTHER** COST
Chevrolet Caprice	1	4.25	1.51	2.81	6	HRS	Zinc Chrome	2.14	0.62	0.12	0.19	0.18	0.66	—	—	1.12	—
Chevrolet Malibu	2	2.67	0.84	3.18	4	—	Zinc Chrome	1.84	0.16	—	0.08	—	0.33	0.26	—	0.52	—
Chevrolet Cavalier	3	2.50	0.59	4.24	4	—	Zinc Chrome	1.69	0.16	—	0.06	—	0.33	0.26	—	0.48	0.48
Ford Crown Victoria	4	4.24	1.70	2.49	11	CRS	Zinc Chrome	1.98	0.56	0.08	0.08	—	0.58	0.42	0.09	1.51	0.19
Ford LTD	5	1.18	0.26	4.54	6	ABS Plastic	ABS Plastic	0.16	0.22	—	0.02	—	0.54	—	0.10	0.61	—
Ford Mustang	6	1.18	0.26	4.54	6	ABS Plastic	ABS Plastic	0.16	0.22	—	0.02	—	0.54	—	0.10	0.61	—
Chrysler Fifth Ave.	7	3.82	1.11	3.44	8	—	Zinc Chrome	1.77	0.18	0.11	0.08	0.12	0.44	1.44	—	1.46	0.08
Chrysler "E" Class	8	1.51	0.33	4.58	8	PP Plastic	PP Plastic	0.15	0.17	0.07	0.08	—	0.56	—	0.22	0.88	—
Plymouth Reliant	9	3.13	0.65	4.82	8	PP Plastic	Zinc Chrome	1.77	0.17	0.07	0.08	—	0.56	—	0.22	0.84	—
AMC Renault/Alliance	10	2.35	0.52	4.52	5	ABS Plastic	Zinc Chrome	1.30	0.80*	—	—	—	0.12	—	—	0.86	<0.01
Toyota Tercel	11	1.69	0.49	3.45	7	PC Plastic	PC Plastic	0.15	0.22	—	0.10	—	0.60	0.40	0.02	0.94	0.02
Nissan Sentra	12	0.92	0.28	3.29	5	—	PVC Plastic	0.14	0.14	—	0.04	—	0.38	0.20	0.02	0.45	—

\*Includes Trim Ring #54.

\*\*This chart contains a list of parts whose costs have a significant effect on the cost difference of the safety features between car lines.

Other costs include those remaining components whose cost varies little from car to car.

TABLE 6

DOOR RELEASE HANDLES      FRONT DOOR      1 RT. &amp; 1 LT.

VEHICLE MAKE/MODEL	VEHICLE NO.	A SAFETY SYSTEM COST	B NO. OF VEHICLES PRODUCED	C WEIGHTED COST (A X B)
Chevrolet Caprice	1	\$4.25	679,907	\$ 2,876,855
Chevrolet Malibu	2	2.67	978,105	2,611,540
Chevrolet Cavalier	3	2.50	1,168,189	2,920,472
Ford Crown Victoria	4	4.24	152,454	646,405
Ford LTD	5	1.18	420,858	496,612
Ford Mustang	6	1.18	219,159	258,608
Chrysler Fifth Ave.	7	3.82	123,684	472,473
Chrysler "E" Class	8	1.51	119,009	179,704
Plymouth Reliant	9	3.13	338,652	105,998
AMC Renault/Alliance	10	2.35	142,205	334,182
Toyota Tercel	11	1.69	147,965	250,061
Nissan Sentra	12	0.92	<u>209,889</u>	<u>193,098</u>
TOTAL			4,697,076	\$12,299,990

Safety System Weighted Average Cost = \$2.62.

Safety System Weighted Average Cost - Column B Total Divided By Column A Total.

### ARM RESTS

Arm rests must comply with FMVSS 201 in that it must either collapse on impact or present no unpadded areas that could come in contact with an occupant in the course of an accident.

The usually conservative AMC Renault/Alliance has the most expensive arm rest (\$5.57). Although it is not the heaviest, it has the largest number of parts (6) most others have three (3), the highest assembly cost, a \$1.10 trim plate and an integral assist handle. The Crown Victoria arm rest is the second most costly (\$4.33). It is heavier and longer than the Renault/Alliance, but has only three (3) pieces. The next four in descending order of cost are the Cavalier, Reliant, L.T.D., and Mustang. All have integral assist handles. The remaining six (6) cars have relatively plain arm rests and their costs are relative to their size and weight.



TABLE 7

ARM REST FRONT DOOR 1 RT. & 1 LT. ALL COSTS ARE PER CAR

VEHICLE MAKE/MODEL PART #	NO.	COST	WT. LB.	\$/LB.	NO. PCS.	FOAM PAD (02)	SUPPORT MATL COST (03)	REINFORCEMENT MATL COST (04)	COVER MATL COST (05)	ASSY (01)	CLIP & PLUG (06 & 13)	TRIM PLATE (11)	STUD MTG. (12)	SAFETY ITEMS 02, 03 & 05 & 1 of 01	
Chevrolet Caprice	1	3.55	3.06	1.16	4	<0.01	PVC	1.72	CRS	0.68	PVC	0.76	0.38	—	2.68
Chevrolet Malibu	2	2.50	1.66	1.51	3	0.30	—	—	HRS	0.86	PVC	1.08	0.26	—	1.51
Chevrolet Cavalier	3	4.26	2.68	1.59	6	0.12	ABS	1.42	ALUM	0.36	PVC	1.78	0.50	—	3.57
Ford Crown Victoria	4	4.33	4.08	1.06	3	0.94	URET.	1.54	—	—	PVC	1.58	0.27	—	4.19
Ford LTD	5	3.55	2.89	1.23	2	—	—	—	ABS	1.81	PVC	1.28	0.46	—	1.51
Ford Mustang	6	3.55	2.89	1.23	2	—	—	—	ABS	1.81	PVC	1.28	0.46	—	1.51
Chrysler Fifth Ave.	7	1.73	0.89	1.94	3	0.18	—	—	PVC	0.61	PVC	0.68	0.26	—	0.99
Chrysler "E" Class	8	1.49	0.81	1.84	3	0.14	—	—	PVC	0.36	PVC	0.73	0.26	—	0.99
Plymouth Reliant	9	3.73	2.37	1.57	3	—	—	—	PVC	1.27	PVC	1.38	0.10	0.98	1.43
AMC Renault/Alliance	10	5.57	3.03	1.84	6	0.12	FOAM	0.36	ABS	1.38	PVC	1.16	0.97	1.10	2.12
Toyota Tercel	11	1.65	1.51	1.09	4	—	PLYP	0.48	GALV. STEEL	0.42*	PVC	0.57	0.18	—	1.15
Nissan Sentra	12	0.69	0.41	1.68	3	0.09	ABS	0.22	—	VINYL	0.11	0.27	—	—	0.66

\*Includes Assist Handle Reinforcement.

TABLE 8

ARM REST      FRONT DOOR      1 RT. &amp; 1 LT.

VEHICLE MAKE/MODEL	VEHICLE NO.	A SAFETY SYSTEM COST	B NO. OF VEHICLES PRODUCED	C WEIGHTED COST (A X B)
Chevrolet Caprice	1	\$3.55	676,907	\$ 2,403,020
Chevrolet Malibu	2	2.50	978,105	2,445,263
Chevrolet Cavalier	3	4.26	1,168,189	4,976,485
Ford Crown Victoria	4	4.33	152,454	660,126
Ford LTD	5	3.55	420,858	1,494,046
Ford Mustang	6	3.55	219,159	778,014
Chrysler Fifth Ave.	7	1.73	123,684	213,973
Chrysler "E" Class	8	1.49	119,009	177,323
Plymouth Reliant	9	3.73	338,652	1,263,172
AMC Renault/Alliance	10	5.57	142,205	792,082
Toyota Tercel	11	1.65	147,965	244,142
Nissan Sentra	12	0.69	<u>209,889</u>	<u>144,823</u>
TOTAL			4,697,076	\$15,592,469

Safety System Weighted Average Cost = \$3.31.

Safety System Weighted Average Cost - Column B Total Divided By Column A Total.

## SUNVISORS

Sunvisors are considered a possible injury source and are included in FMVSS 201, Section 3.4 which states: "Two sunvisors shall be provided that are constructed of or covered with energy absorbing materials" and "Each sunvisor mounting shall present no rigid material edge radius of less than 0.125 inch that is statically contactable by a spherical 6.5 inch diameter head form". Sunvisor costs vary from a high of \$5.60 (Malibu) to a low of \$2.84 (Sentra). However, most of this difference is in the hinge rod and mounting bracket. The three Chevrolets use chrome plated zinc hinge rod and mounting bracket for a styling penalty of \$2.33 over Sentra's plastic rod and bracket. The two items considered safety related are the pad (31) and cover (30). In these two parts, Malibu and Sentra are only one cent (\$.02) apart. The remaining cars safety related costs vary according to their choice of energy absorbing material used.

TABLE 9

## SUNVISORS ALL COSTS ARE PER CAR

VEHICLE MAKE/MODEL	NO.	COST	WT. LB.	\$/LB.	NO. PCS.	PAD MATL	COST (31)	COVER MATL	COST (30)	HINGE BRACKET MATL	COST (22)	HINGE BRKT REINF	SPRING (27)	HINGE ROD ASSY PCS COST (21)	STIFFENER (29)	SAFETY ITEMS 30 & 31	OTHER** COST	
PART #																		
Chevrolet Caprice	1	5.33	2.20	2.42	13	PAPER	0.11	NYLON	0.24	ZINC/ CHROME	0.93	0.36	0.10	2	1.56	0.54	0.35	1.49
Chevrolet Malibu	2	5.60	1.94	2.89	15	FIBER GLASS	0.53	NYLON	0.17	ZINC/ CHROME	0.94	0.24	0.10	2	1.56	0.20	0.70	1.86
Chevrolet Cavalier	3	5.40	2.48	2.18	15	PAPER	0.09	NYLON	0.34	ZINC/ CHROME	0.93	0.26	0.10	2	1.56	0.26	0.43	1.86
Ford Crown Victoria	4	5.25	1.94	2.71	12	PAPER	0.13	RUBBER & FIB. GLASS	0.92	ZINC/ CHROME	0.90	0.24	0.09	1	1.18	0.21	1.05	1.56
Ford LTD	5	5.13	1.71	3.00	12	PAPER	0.11	RUBBER & NYLON	0.70	ZINC/ CHROME	0.90	0.24	0.09	1	1.32	0.20	0.81	1.57
Ford Mustang	6	4.80	1.70	2.82	13	FOAM	0.26	PLASTIC & PAPER	0.12	ZINC/ CHROME	0.90	0.22	0.09	1	1.32	0.20	0.38	1.69
Chrysler Fifth Ave.	7	4.33	2.28	1.90	12	PAPER	0.09	GUILFORD CLOTH	0.72	ZINC/ PAINT	0.28	0.40	0.09	1	0.58	0.17	0.81	2.00
Chrysler "E" Class	8	4.25	1.78	2.39	12	PAPER	0.11	GUILFORD CLOTH	0.70	ZINC/ PAINT	0.24	0.24	0.09	1	0.66	0.21	0.81	2.00
Plymouth Reliant	9	4.26	1.88	2.27	12	PAPER	0.11	GUILFORD CLOTH	0.70	ZINC/ PAINT	0.24	0.24	0.09	1	0.66	0.23	0.81	1.99
AMC Renault/Alliance	10	2.90	1.33	2.18	*10+	FOAM & PAPER	0.62	RUB. COAT FIB. GLASS	0.20	PLASTIC	0.08	0.20	0.09	1	0.66	0.16	0.82	0.89
Toyota Tercel	11	3.89	1.06	3.67	13	FOAM	0.27	VINYL	0.38	PLASTIC	0.09	0.15	0.04	1	0.86	0.13	0.65	1.97
Nissan Sentra	12	2.84	0.78	3.64	12	FOAM	0.26	VINYL	0.42	PLASTIC	0.10	0.12	---	1	0.06	0.12	0.68	1.76

\*The + Is A Common Stowage Bracket For The Right And Left Sunvisors.

\*This chart contains a list of parts whose costs have a significant effect on the cost difference of the safety features between car lines.

Other Costs include those remaining components whose cost varies little from car to car.



**TABLE 10****SUNVISORS**

VEHICLE MAKE/MODEL	VEHICLE NO.	A SAFETY SYSTEM COST	B NO. OF VEHICLES PRODUCED	C WEIGHTED COST (A X B)
Chevrolet Caprice	1	\$5.33	676,907	\$ 3,607,914
Chevrolet Malibu	2	5.60	978,105	5,477,388
Chevrolet Cavalier	3	5.40	1,168,189	6,308,221
Ford Crown Victoria	4	5.25	152,454	800,383
Ford LTD	5	5.13	420,858	2,159,001
Ford Mustang	6	4.80	219,159	1,051,963
Chrysler Fifth Ave.	7	4.33	123,684	535,552
Chrysler "E" Class	8	4.25	119,009	505,788
Plymouth Reliant	9	4.26	338,652	1,442,657
AMC Renault/Alliance	10	2.90	142,205	412,394
Toyota Tercel	11	3.89	147,965	575,584
Nissan Sentra	12	2.84	<u>209,889</u>	<u>\$ 596,085</u>
TOTAL			4,697,076	\$23,472,932

Safety System Weighted Average Cost = \$4.99.

Safety System Weighted Average Cost - Column B Total Divided By Column A Total.

## INSTRUMENT PANELS

To comply with FMVSS 201, instruments panels must be padded to the extent that when that area of the instrument panel that is within the head impact area is impacted by a 15 pound 6.5 inch diameter head form at a relative velocity of 15 miles per hour, the deceleration of the head form shall not exceed 80G continuously for more than 3 milliseconds.

There are exceptions to the basic requirements that allow Nissan and Toyota to pad only the passenger's side of their instrument panel. It is possible that some of the other cars in this study could have complied with the standard by using the smaller passenger side pads, but because of styling or design chose to pad the entire instrument panel.

The Toyota Tercel uses a foam padding that forms its own skin in the mold and does away with the need for a separate cover, and in the process, saves about one dollar (\$1.00) a car.

TABLE 11

## INSTRUMENT PANEL PAD

VEHICLE MAKE/MODEL PART #	NO.	COST	WT. LB.	\$/LB.	NO. PCS.	FOAM (02)	BASE SUPPORT MATL COST (03, 11 & 15)	COVER (04)	RETAINERS (05 & 06)	ASSY (01)	ATTACH PARTS (07 & 16)	REINF. (08&10)	INSUL. (09)	SAFETY ITEMS
Chevrolet Caprice	1	11.29	8.27	1.37	5	3.12	CRS 5.20	1.92	0.12	0.92	—	—	—	5.50
Chevrolet Malibu	2	14.02	9.25	1.52	3	1.15	ACRYLIC 8.60	2.92	—	1.35	—	—	—	4.75
Chevrolet Cavalier	3	15.00	10.25	1.46	3	1.27	ACRYLIC 9.44	2.94	—	1.35	—	—	—	4.89
Ford Crown Victoria	4	13.38	6.53	2.05	6	2.94	ABS 6.98	1.47	—	0.92	0.14	0.27	0.66	4.87
Ford LTD	5	12.78	4.53	2.82	4	1.31	ABS 8.99	1.44	—	0.92	0.12	—	—	3.21
Ford Mustang	6	12.78	4.53	2.82	4	1.31	ABS 8.99	1.44	—	0.92	0.12	—	—	3.21
Chrysler Fifth Ave.	7	8.64	5.96	1.45	6	0.81	CRS 4.58	1.80	—	0.92	0.15	0.39	—	3.07
Chrysler "E" Class	8	14.68	5.78	2.54	4	2.58	ABS 8.66	2.36	—	0.92	0.16	—	—	5.40
Plymouth Reliant	9	14.68	5.78	2.54	4	2.58	ABS 8.66	2.36	—	0.92	0.16	—	—	5.40
AMC Renault/Alliance	10	13.27	4.76	2.79	3	1.60	ABS 9.33	1.41	—	0.92	—	—	—	3.47
Toyota Tercel	11	3.04	2.81	1.08	3	0.84	CRS 1.43	—	—	0.77	—	—	—	1.23
Nissan Sentra	12	3.23	1.75	1.85	5	0.69	CRS 0.48	1.02	0.12	0.92	—	—	—	2.17

TABLE 12

## INSTRUMENT PANEL PAD

VEHICLE MAKE/MODEL	VEHICLE NO.	A SAFETY SYSTEM COST	B NO. OF VEHICLES PRODUCED	C WEIGHTED COST (A X B)
Chevrolet Caprice	1	\$11.29	676,907	\$ 7,642,280
Chevrolet Malibu	2	14.02	978,105	13,713,032
Chevrolet Cavalier	3	15.00	1,168,189	17,522,835
Ford Crown Victoria	4	13.38	152,454	2,039,834
Ford LTD	5	12.78	420,858	5,378,565
Ford Mustang	6	12.78	219,159	2,800,852
Chrysler Fifth Ave.	7	8.64	123,684	1,068,630
Chrysler "E" Class	8	14.68	119,009	1,747,052
Plymouth Reliant	9	14.68	338,652	4,971,411
AMC Renault/Alliance	10	13.27	142,205	1,887,060
Toyota Tercel	11	3.04	147,965	4,498,814
Nissan Sentra	12	3.23	<u>209,889</u>	<u>677,941</u>
TOTAL			4,697,076	\$59,899,307

Safety System Weighted Average Cost = \$12.75.

Safety System Weighted Average Cost - Column B Total Divided By Column A Total.



## SEAT BACKS

That portion of the front seat back that is within the head impact area must withstand the impact of a 15 pound sphere, 6.5 inches in diameter, moving at a relative velocity of 15 miles per hours, and at impact, decelerate this head form in such a manner that it shall not exceed an 80G force for more than 3 milliseconds.

The object of including seat backs (upper six inches) in this study was to determine the cost of compliance for each of the auto manufacturers, in meeting the requirements of this standard. Representatives of the domestic auto manufacturers were asked, what original change or upgrading was necessary to meet the standard when it was first introduced. Without exception, all answered that as far as they knew all seat padding was in compliance before the introduction of the standard, and the only changes since the standard was introduced was for styling and upgrading for customer comfort.

To follow the example of previous studies, the portion of the front seat back included in this study was the top six inches of foam and cover plus any support that extends into this area. Only material costs are used unless a part is wholly contained in the upper six inches of the seat back; otherwise we assumed very little additional labor was required to mold the pad or cut and sew the cover.

Standard equipment seats were used to avoid the complication that extra padding in the luxury or option seats may cause. But true to Murphy's Law, other complications arose, some of the cars studied have standard split bench seats and do not offer a bucket seat option, some have bucket seats standard without a bench option, some are high backed without head rests and some come standard with head rests.

The real problem is what to attribute these costs or cost differences to - seat type, styling, comfort and luxury, or passenger protection, and how is passenger protection evaluated in the upper seat back without including head rests.

The seat back upper six inch costs range from \$2.37 for the "E" Class and Reliant to \$0.31 for the Toyota Tercel.

TABLE 13

SEAT BACK PADDING			FRONT		1 RT. & 1 LT.		ALL COSTS ARE PER CAR					SAFETY ITEMS (ALL)
VEHICLE MAKE/MODEL PART #	NO.	COST	WT. LB.	\$/LB.	NO. PCS.	MAIN PAD (02)	CROWN SUPPT (04)	BORDER WIRE (05)	WIRE COVER (06)	VELCRO PAD (08)	BATTEN (07)	
Chevrolet Caprice	1	1.51	1.57	0.96	3	1.30	---	0.01	0.20	---	---	1.51
Chevrolet Malibu	2	1.81	1.57	1.15	4	1.09	0.51	0.01	0.20	---	---	1.81
Chevrolet Cavalier	3	1.58	1.47	1.07	2	1.12	0.46	---	---	---	---	1.58
Ford* Crown Victoria	4	1.36	1.81	0.75	2	1.27	---	0.09	---	---	---	1.36
Ford LTD	5	1.43	1.42	1.01	3	0.91	0.50	0.02	---	---	---	1.43
Ford Mustang	6	1.65	1.48	1.11	3	0.90	0.71	0.04	---	---	---	1.65
Chrysler Fifth Ave.	7	1.97	1.84	1.07	3	1.02	0.89	0.06	---	---	---	1.97
Chrysler "E" Class	8	2.37	2.05	1.16	3	1.17	1.14	0.06	---	---	---	2.37
Plymouth Reliant	9	2.37	2.05	1.16	3	1.17	1.14	0.06	---	---	---	2.37
AMC Renault/Alliance	10	0.78	0.77	1.01	2	0.64	---	---	---	0.14	---	0.78
Toyota Tercel	11	0.31	0.37	0.84	1	0.31	---	---	---	---	---	0.31
Nissan Sentra	12	1.03	0.81	1.27	2	0.67	---	---	---	---	0.36	1.03

\*Bench Seat.

TABLE 14

SEAT BACK PADDING	FRONT	1 RT. & 1 LT.		
VEHICLE MAKE/MODEL	VEHICLE NO.	A SAFETY SYSTEM COST	B NO. OF VEHICLES PRODUCED	C WEIGHTED COST (A X B)
Chevrolet Caprice	1	\$1.51	676,907	\$1,022,130
Chevrolet Malibu	2	1.81	978,105	1,770,370
Chevrolet Cavalier	3	1.58	1,168,189	1,845,739
Ford* Crown Victoria	4	1.36	152,454	207,337
Ford LTD	5	1.43	420,858	601,827
Ford Mustang	6	1.65	219,159	361,612
Chrysler Fifth Ave.	7	1.97	123,684	243,657
Chrysler "E" Class	8	2.37	119,009	282,051
Plymouth Reliant	9	2.37	338,652	802,605
AMC Renault/Alliance	10	0.78	142,205	110,920
Toyota Tercel	11	0.31	147,965	45,869
Nissan Sentra	12	1.03	<u>209,889</u>	<u>216,186</u>
TOTAL			4,697,076	\$7,510,304

\*Bench Seat

Safety System Weighted Average Cost = \$1.60.

Safety System Weighted Average Cost - Column B Total Divided By Column A Total.

## DISCUSSION

A work flow diagram of the methodology used for this contract is shown in Figure 1. A discussion of each element of the work plan as used for this program is provided on the following pages. The discussion applies to the analysis of all of the Standards as a common work plan was used.

## SELECTION

In order to obtain a representative overview of the changes in the system involved in this study without incurring excessive program cost, it was necessary to establish an integrated cost sampling plan. This plan was designed to provide typical systems of the major makes and sizes of vehicles without the need to individually examine every make/model produced in the affected years. The selection of a key model to represent several models from the same manufacturer is possible because of current industry practice which utilizes common structure and mechanisms for all makes/models sharing a common body size. For example, all compact size makes in the General Motors family use common glove compartment latches, door handles, steering systems, etc. As a result, analysis of Chevrolet Cavalier components would also cover the systems for a Buick Skyhawk, Oldsmobile Firenza and Pontiac 2000 models.

To prevent costs inflated by expensive material and trim applications, the vehicles selected were low or middle of the line cars without optional extras that could affect the components we used, such as vanity sun visors, high line or luxury seats, arm rests, etc.

Those cars selected for this study were to be high volume representatives of all the various size classifications and be carry-over models or direct descendants of those in previous related studies. The sampling also included cars downsized by weight reductions, recently redesigned models representing smaller, more efficient vehicles with four and six cylinder engines, rack and pinion steering and front wheel drive.

## ACQUISITION

As directed by the Statement of Work for this contract, actual parts from the selected vehicle systems were procured for comparison and analysis. As many of the required components as possible were purchased from automotive part recycle (junk) yards, that specialize in late model wrecks. The parts were removed by, or in the presence of a Pioneer technician, to insure the parts were from the proper year and



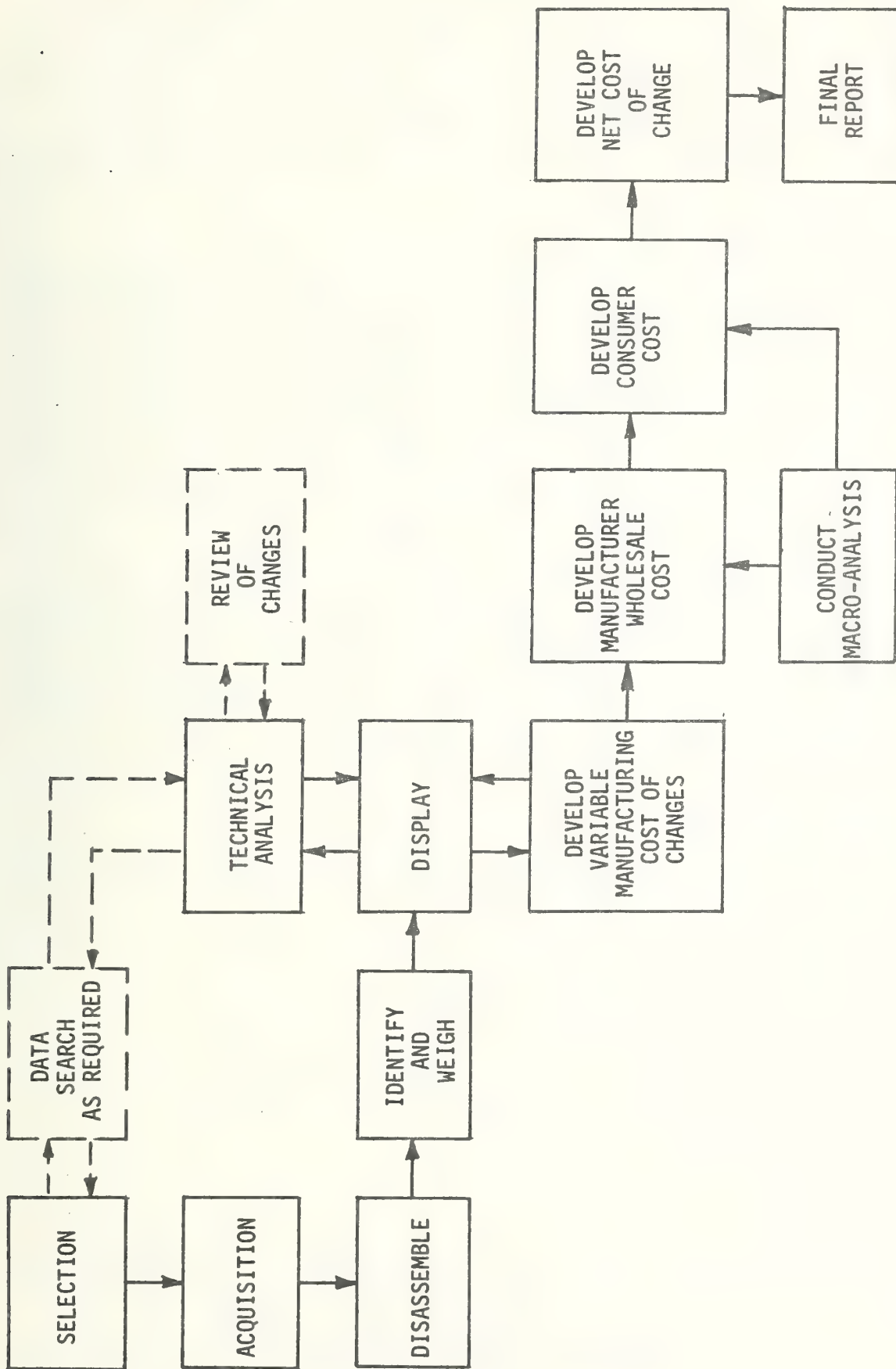


Figure 1  
Work Flow Diagram

model. Approximately 85% of the parts were purchased in this manner. The remainder were ordered from automobile dealerships. This worked out very well for Standards 201, 203 and 204, but seat belt anchors were not usually available as service parts and those that were, were so dissimilar to the original parts that they couldn't be used. Our only choice was to search far and wide until we found those required.

## DISASSEMBLY

Upon receipt, or as soon as possible thereafter, the components and sub-assemblies were completely disassembled, cleaned, weighed (Ohaus gram balance scale), tagged (see Figure 2), and identified as to car manufacturer, model, year, assembly, part name, part number and quantity per vehicle. The parts were then packed in a box with the name and year of the car and assembly it came from. Because of the similarity of parts from car to car, it was necessary to take every precaution to prevent losing the individual components or allowing their being mixed with similar parts from another car.

Most of the assemblies involved in this type of study are not manufactured to be repaired or disassembled. Consequently, we found parts to be clinched, spot welded or even arc welded together, and disassembly was carried out with some discretion to prevent destroying the parts or distorting them to the extent the process analyst would have difficulty determining their manufacturing process.

## IDENTIFICATION AND WEIGHING

To insure proper identification of all components for further processing or later reference, three methods were utilized:

- An identification tag was prepared for each individual part or assembly, and attached as the disassembly progressed.
- A complete parts list was prepared for the components of each system.
- A photograph was taken of the components for each system.

## DISPLAY

After completing the identification and weighing, components were displayed on vertical boards to facilitate the analysis of changes between comparable systems. Parts were displayed in approximate car position and in proper functional relationship to each other. The report photographs were taken of these displays. The photographing

A sample part identification tag, tilted at an angle. It is a rectangular tag with a small circle on the left side, from which a string is attached. The tag contains the following fields, each with a horizontal line for text entry:

- VEHICLE MAKE \_\_\_\_\_
- MODEL \_\_\_\_\_
- YEAR \_\_\_\_\_
- PART \_\_\_\_\_
- PPG/UPG \_\_\_\_\_
- WEIGHT \_\_\_\_\_
- REQ'D \_\_\_\_\_

Figure 2  
Sample Part Identification Tag

process used a central position and a common distance so that all parts in the photographs are practically distortion free and comparable for size. Mounting holes on the board are at 1 inch intervals and therefore provide a convenient scale for estimating actual part size.

While the parts were thus displayed, a complete parts list of each system was prepared as a guide for future reference. The parts list was organized in the same order as the photograph and individual part identification numbers were assigned to facilitate cross-reference. (See Table 15, Part Numbering System and Table 15A, Automobile Make and Model Identification).

Parts lists and photographs of all parts of each system will be found in the Sections relating to each Standard. The lists and photographs will be found adjacent to each other for ease of identification. The identification number also provides convenient cross-reference.

Seat Belt Anchor Photographs - In most cases, the seat belt anchor nut, reinforcing plate, and the panel it was attached to were rusted together to the extent they would be indistinguishable as separate items in a photograph. To facilitate identification, the rust was removed and the parts painted, the reinforcing plate grey and the nut black. In a few cases, parts of the reinforcing plate actually crumbled away during rust removal. The part outline had to be restored with paper or foil and painted grey for photographing.

## TECHNICAL ANALYSIS

As parts from comparable vehicle system became available they were analyzed to determine:

- Differences between models
- The reasons for the differences
  - To meet the requirements of the Standards
  - Styling
  - Cost Reduction
  - Product Improvement (Functional improvements not related to the requirements of the Standards)

A summary of this analysis for each vehicle is provided adjacent to the corresponding parts list and photographs.



**TABLE 15**

**PART NUMBERING SYSTEM**

The part numbers are derived from a "Master Bill of Material" that contains all of the component parts and subassemblies for a given assembly or system. Thus a glove compartment release knob for a Chevrolet will appear on the same line of its Bill of Material, and have the same item number as any glove compartment release knob for any vehicle in the study. Following is a detailed breakdown and explanation of the numbering system.

Ford (Full Size) 04	1983  83	Board 4 (Seat Back Pad)  4	Border Wire  04A
Vehicle	Year	Photograph Number	Item Number
The first and second numbers indicate mfg. and model (car size) (01-22).	The third and fourth numbers indicate the year (1963-1983).	The fifth number is the photograph board number (1-7).	The sixth, seventh and eighth (when necessary) numbers indicate the part as it appears on the Master Part List, Detail Process Sheet, Computer Cost Sheet and Photograph.

TABLE 15A

## AUTOMOBILE MAKE AND MODEL IDENTIFICATION

NUMBER	MAKE	SIZE*	MODEL
01	Chevrolet	Standard	Impala-Caprice
02	Chevrolet	Intermediate	Malibu
03	Chevrolet	Compact	Cavalier
04	Ford	Standard	Crown Victoria
05	Ford	Intermediate	Fairlane-LTD
06	Ford	Compact	Mustang
07	Chrysler	Standard	5th Avenue
08	Chrysler	Intermediate	"E" Class
09	Chrysler	Compact	Valiant-Reliant
10	A.M.C.	Subcompact	American, Gremlin, Alliance
11	Toyota	Subcompact	Corona, Tercel
12	Nissan	Subcompact	Sentra
13	Chevrolet	Standard	Pickup, C-10
14	Chevrolet	Light	Pickup, S-10
15	Ford	Standard	Pickup, F-150
16	Ford	Light	Pickup, Ranger
17	Chevrolet	Standard	M.P.V., Blazer
18	Ford	Standard	M.P.V., Bronco
19	Chrysler	Standard	M.P.V., Ram Charger
20	A.M.C.	Standard	M.P.V., Jeep
21	Nissan	Light	Pickup
22	Toyota	Light	Pickup

\*Size Classification Per Automotive News

The net result of this analysis is the accurate and complete identification of all changes in the component parts of the selected systems which are attributable to the requirements of the specified FMVSS.

#### MICRO-ANALYSIS

All components identified in the previous Technical Analysis as changed because of the implementation of the FMVSS were cost analyzed to determine their consumer price. This detailed cost determination is known as a Micro-Analysis. It has been used by Pioneer and other contractors to establish accurate costs of manufactured products. By this method, manufacturing costs are determined by a detailed analysis of the processes used to produce the parts.

The analysis of each part is based on utilizing high volume efficient manufacturing methods and equipment as used by the large U.S. vehicle manufacturers. This analysis, at Pioneer is conducted by manufacturing process engineers who had previously performed these studies at major automobile companies. This process provides a much more accurate estimate of manufacturing cost than short cut methods based on material weight or other part characteristics.

By actual analysis of each part, the Micro-Analysis process determines the following base elements of variable manufacturing cost:

Material - The component analysis establishes the type of material used for the part. The measured weight of the finished part is then modified (based on the process analysis - see Labor) for the amount of material removed in the manufacturing processes which provides the rough or purchased material weight. This weight (in pounds) is then multiplied by the current cost per pound contained in Pioneer's data processing file to provide the net material cost of the part.

Labor - Each identified component is analyzed by manufacturing process engineers to establish the individual operations required to manufacture the part by high volume automotive practice. The analysis provides the amount of labor time necessary to handle the part through the various operations. The total labor time multiplied by current labor rates contained in Pioneer's data processing file provides the net labor content of the part cost. (In certain cases more than one labor rate may be applicable to the manufacture of a part.)

Burden - The process analysis of each part also includes the determination of the type of manufacturing equipment required for each operation plus the time cycle on the machine to provide the required operations. The time required on each piece of equipment (commonly called occupancy time) multiplied by the burden rate for the equipment contained in Pioneer's data processing file provides the burden cost applicable to each operation. The sum of these for all operations on a part provides the burden cost factor of the variable manufacturing cost.

The total VARIABLE MANUFACTURING COST for each part is the sum of the MATERIAL, LABOR and BURDEN elements determined by the Micro-Analysis process.

The individual process elements as determined by the process engineer's analysis are recorded on a worksheet(s) for each part. A sample of the work sheet used by Pioneer is shown in Figure 3.

The work sheets with the part process data are supplied to Pioneer's data processing center where cost values are provided by the computer from cost factors (labor rates, burden rates, etc.) contained in the data bank. A sample of the cost data printout sheet is shown in Figure 4. This data processing capability effectively eliminates the potential for routine mathematical errors as well as greatly speeding up the data processing time.

Coincident with the determination of variable manufacturing cost for each part, the cost of the tools necessary for each operation is also determined. This item is provided on the work sheet and carried over onto the printout sheet for reference.

## MACRO-ANALYSIS

In order to calculate the consumer price of a component, it is first necessary to determine the manufacturers' wholesale price or the price he charges the retail dealer. This price consists of the variable manufacturing cost of the component plus cost elements such as fixed burden, administration, research and development, profit, etc. The difference between variable manufacturing cost and wholesale price for a given manufacturer can be determined by a process known as Macro-Analysis. This process analyzes corporate financial statements such as annual reports and 10-K reports filed with the Securities and Exchange Commission to separate elements of variable manufacturing cost - labor, purchased material which would include raw material, and applicable variable burden from the income received from selling manufactured goods.



# OPERATION SHEET

[illegible]

## VEHICLE- 01- CHEVROLET CAPRICE

DESCRIPTION	ITEM	NO.	QTY	MATL	WEIGHT	MATERIAL	LABOR	BURDEN	TOTAL	PRICE	PRICE	TOOLING
CHEVROLET CAPRICE												
ASM - GLOVE COMPARTMENT LATCH	183101	1	1	1	17.3369	29.6282	.6866	.7238	31.0386	44.6031	50.6699	1684.0
				1 ASSY	.2589	.3213	.5948	.6570	1.5731	2.2607	2.5682	372.5
ASM - WINDOW REGULATOR HANDLE	183120	1	1	1	.4748	3.1290			3.1290	4.4962	5.1078	362.0
ASM - DOOR HANDLE	183151	1	1	1	1.5118	4.2546			4.2546	6.1140	6.9456	276.0
ASM - ARM REST	183201	1	1	1	3.0550	3.5500			3.5500	5.1014	5.7952	241.0
ASM - SUNVISOR	183220	1	1	1	2.1976	5.7362			5.7362	8.2432	9.3646	261.5
ASM - INSTRUMENT PANEL PAD	183301	1	1	1	8.2720	11.2903			11.2903	16.2244	18.4311	171.0
ASM - SEAT BACK PAD (UPPER 6")	183401	1	1	1	1.5668	1.3468	.0918	.0668	1.5054	2.1632	2.4574	
ASSEMBLY COST												
*****												
ASM - GLOVE COMPARTMENT LATCH	183101	1	1	1	1 ASSY	.2589	.3213	.6570	1.5731	2.2607	2.5682	372.5
HOUSING - GLOVE BOX LOCK	183102	1	1	1	1 ZN	.0900	.0518	.0550	.1322	.1900	.2158	70.0
RELEASE KNOB	183103	1	1	1	1 ZN	.0435	.0300	.1261	.1672	.2333	.4646	5278 67.0
SPRING - RELEASE BUTTON	183104	1	1	1	1 WIRE	.0028	.0170		.0170	.0244	.0277	
SPRING - RELEASE TRIGGER	183106	1	1	1	1 WIRE	.0006	.0170		.0170	.0244	.0277	
RETAINER - LOCK HOUSING	183107	1	1	1	1 ZN	.0178	.0103	.0116	.0265	.0484	.0696	50.0
KNOB - LOCK HOUSING	183109	1	1	1	1 ZN	.0510	.0288	.0116	.0265	.0669	.0941	1092 60.0
LATCH - GLOVE BOX	183112	1	1	1	1 HRS	.0085	.0055	.0047	.0166	.0268	.0385	25.0
TUMBLER - GLOVE BOX LOCK	183113	1	1	1	5 BRS	.0040	.0230	.0085	.0290	.0605	.0870	50.0
TUMBLER SPRING	183114	1	1	1	5 WIRE	.0005	.0100		.0100	.0145	.0165	
STRIKER - GLOVE BOX LOCK	183115	1	1	1	1 STWR	.0191	.0099	.0088	.0320	.0507	.0729	40.0
ROLL PIN	183119A	1	1	1	1 AL	.0007	.0010		.0010	.0014	.0016	
MOUNTING SCREW	183119B	1	1	1	2 STL	.0204	.1100		.1100	.1580	.1794	
ASSEMBLY COST												
							.0070	.3981	.7093	1.0193	1.1579	10.5

Figure 4

The ratio of income from sales to variable costs as determined by this Macro-Analysis can then be applied to the estimated variable manufacturing cost for a component to provide an estimate of the wholesale price.

This ratio of variable manufacturing cost to wholesale price varies among industries and also between companies in the same industry. For this contract, NHTSA directed that an average value for the automotive industry should be used for the determination of wholesale price from the estimated manufacturing costs developed by this analysis.

The variable cost portion of income from sales (wholesale price) as determined from Macro-Analysis studies of the major U.S. automotive manufacturers is shown in Table 16. 1978 values have been used because of the extensive distortion of typical relationships resulting from the depressed economic conditions in the automotive industry in the past four years.

Based on the production weighted average developed from the Macro-Analysis (Table 16), the ratio of sales (wholesale price) to variable manufacturing cost is

$$100/74.78 = 1.337$$

However, NHTSA indicated that it wished to use a "normalized" factor for this study. It was obtained by using the ratio of average to most efficient values:

$$74.78/69.57 = 1.0749$$

The ratio of sales (wholesale price) to variable manufacturing cost used in this study is therefore:

$$1.337 \times 1.0749 = 1.437$$

Therefore, wholesale price is determined by the formula:

$$\text{Wholesale Price} = 1.437 \times \text{Variable Manufacturing Cost}$$

The above ratio (1.437) was programmed into the computer so that the wholesale price was automatically provided on the data printout sheet (Figure 4).

The determination of consumer price from manufacturers wholesale price is a function of the dealer discount which is applied to the manufacturers suggested retail price. Traditionally, this was around 20% but recent years have seen extensive reductions in this factor as a result of the introduction of smaller cars. NHTSA concurred with the use of the following as typical of current practice:

TABLE 16  
VARIABLE COSTS AS PERCENT OF SALES  
U.S. AUTOMOTIVE MANUFACTURERS - 1978

MANUFACTURER	VARIABLE COST %
General Motors	69.57
Ford	78.23
Chrysler	86.83
AMC	81.59
Average*	74.78

\*Production Weighted



Domestic Vehicles 12.0%

Imported Vehicles 13.9%

Since this is a discount factor from published selling price, the formula for this study is:

Consumer Price = 1.136 x Wholesale Price (Domestic)

Consumer Price = 1.161 x Wholesale Price (Imported)

These ratios were also programmed into the computer so that consumer price was automatically provided on the data printout sheet following wholesale price (Figure 4).

The summation of individual component consumer price differentials provides the net consumer price effect of the FMVSS for comparable vehicle systems.





APPENDIX A  
ABBREVIATIONS FOR MATERIALS  
PART NUMBERING SYSTEM  
COST SHEETS AND PHOTOGRAPHS



## NUMERICAL ORDER

ALPHABETICAL ORDERA-1.

## PART NUMBERING SYSTEM

The part numbers are derived from a "Master Bill of Material" that contains all of the component parts and subassemblies for a given assembly or system. Thus a glove compartment release knob for a Chevrolet will appear on the same line of its Bill of Material, and have the same item number as any glove compartment release knob for any vehicle in the study. Following is a detailed breakdown and explanation of the numbering system.

Ford (Full Size)	1983	Board 4 (Seat Back Pad)	Border Wire
04	83	4	04A

Vehicle	Year	Photograph Number	Item Number
The first and second numbers indicate mfg. and model (car size) (01-22).	The third and fourth numbers indicate the year (1963-1983).	The fifth number is the photograph board number (1-7).	The sixth, seventh and eighth (when necessary) numbers indicate the part as it appears on the Master Part List, Detail Process Sheet, Computer Cost Sheet and Photograph.



VEHICLE- 01- CHEVROLET CAPRICE

DESCRIPTION	ITEM NO.	QTY	MATL	WEIGHT	MATERIAL	LABOR	BURDEN	TOTAL	WHOLESALE PRICE	CONSUMER PRICE	TOOLING
CHEVROLET CAPRICE		1		17.3369	29.0404	.6866	.7238	30.4508	43.7583	49.7103	1664.0
ASM - GLOVE COMPARTMENT LATCH	183101	1	ASSY	.2589	.3213	.5948	.6570	1.5731	2.2607	2.5682	372.5
ASM - WINDOW REGULATOR HANDLE	183120	2	ASSY	.4748	2.9490			2.9490	4.2374	4.8138	362.0
ASM - DOOR HANDLE	183151	2	ASSY	1.5118	4.2546			4.2546	6.1140	6.9456	276.0
ASM - ARM REST	183201	2	ASSY	3.0550	3.5500			3.5500	5.1014	5.7952	241.0
ASM - SUNVISOR	183220	2	ASSY	2.1976	5.3284			5.3284	7.6572	8.6990	241.5
ASM - INSTRUMENT PANEL PAD	183301	1	ASSY	8.2720	11.2903			11.2903	16.2244	18.4311	171.0
ASM - SEAT BACK PAD (UPPER 6")	183401	2	ASSY	1.5668	1.3468	.0918	.0668	1.5054	2.1632	2.4574	
ASSEMBLY COST											

VEHICLE- 01- CHEVROLET CAPRICE

DESCRIPTION	ITEM NO.	QTY	MATERIAL	WEIGHT	VARIABLE MANUFACTURING COST			WHOLESALE/ CONSUMER TOOLING		
					MATERIAL	LABOR	BURDEN	TOTAL	PRICE	PRICE
ASM - GLOVE COMPARTMENT LATCH	183101	1	ASSY	.2589	.3213	.5948	.6570	1.5731	2.2607	2.5682
HOUSING - GLOVE BOX LOCK	183102	1	ZN	.0900	.0518	.0254	.0550	.1322	.1900	.2158
RELEASE KNOB	183103	1	ZN	.0435	.0300	.1261	.1672	.3233	.4646	.5278
SPRING - RELEASE BUTTON	183104	1	WIRE	.0028	.0170			.0170	.0244	.0277
SPRING - RELEASE TRIGGER	183106	1	WIRE	.0006	.0170			.0170	.0244	.0277
RETAINER - LOCK HOUSING	183107	1	ZN	.0178	.0103	.0116	.0265	.0484	.0696	.0791
KNOB - LOCK HOUSING	183109	1	ZN	.0510	.0288	.0116	.0265	.0669	.0961	.1092
LATCH - GLOVE BOX	183112	1	PHRS	.0085	.0055	.0047	.0166	.0268	.0385	.0437
TUMBLER - GLOVE BOX LOCK	183113	5	PHRS	.0040	.0230	.0085	.0290	.0605	.0870	.0990
TUMBLER SPRING	183114	5	WIRE	.0005	.0100			.0100	.0145	.0165
STRIKER - GLOVE BOX LOCK	183115	1	STWR	.0191	.0099	.0088	.0320	.0507	.0729	.0828
ROLL PIN	183119A	1	AL	.0007	.0010			.0010	.0014	.0016
MOUNTING SCREW	183119B	2	STL	.0204	.1100			.1100	.1580	.1794
ASSEMBLY COST					.0070	.3981	.3042	.7093	1.0193	1.1579
										10.5

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VEHICLE 01- CHEVROLET CAPRICE

DESCRIPTION	ITEM NO.	QTY	MATERIAL	WEIGHT	VARIABLE MANUFACTURING COST			WHOLESALE CONSUMER TOOLING		
					MATERIAL	LABOR	BURDEN	PRICE	PRICE	PRICE
ASM - WINDOW REGULATOR HANDLE	183120	1	21ASSY	.2374	1.4745			1.4745	2.1187	2.4069
HANDLE - WINDOW REGULATOR	183121	1	11ZN	.1865	.8749			.8749	1.2572	1.4282
ASM - WINDOW REGULATOR HANDLE KNOB	183122	1	11ASSY	.0494	.3825			.3825	.5495	.6242
WASHER - SPRING	183127	1	11SSTL	.0002	.0100			.0100	.0144	.0164
WASHER - SPACER	183128	1	11CRS	.0013	.0200			.0200	.0287	.0326
ASSEMBLY COST					.1871			.1871	.2689	.3055

VEHICLE- 01- CHEVROLET CAPRICE












DESCRIPTION	ITEM NO.	QTY	MATERIAL	WEIGHT	VARIABLE MANUFACTURING COST			WHOLESALE CONSUMER TOOLING		
					MATERIAL	LABOR	BURDEN	TOTAL	PRICE	PRICE
ASM - WINDOW REGULATOR HANDLE KNOB	183122	1	2:ASSY	.0494	.3825			.3825	.5495	.6242
PLASTIC (MATERIAL ONLY)	183122A	1	1:PLAS	.0203	.0190			.0190	.0273	.0310
GROMMET - WINDOW REG. HANDLE KNOB	183124	1	1:RUB	.0105	.0994			.0994	.1428	.1622
SHAFT - WINDOW REG. HANDLE KNOB	183125	1	1:ZN	.0158	.0429			.0429	.0616	.0700
CAP - WINDOW REG. HANDLE KNOB	183126	1	1:AL	.0028	.0374			.0374	.0537	.0610
ASSEMBLY COST					.1838			.1838	.2641	.3000
										.115.0

VEHICLE- 03- CHEVROLET CAPRICE






DESCRIPTION	ITEM NO.	QTY	MATERIAL	WEIGHT	VARIABLE MANUFACTURING COST			WHOLESALE CONSUMER TOOLING		
					MATERIAL	LABOR	BURDEN	TOTAL	PRICE	PRICE
ASM - DOOR HANDLE	183151	1	21ASSY	.7559	2.1273			2.1273	3.0570	3.4728
HOUSING - DOOR HANDLE	183152	1	11HRS	.3007	.3130			.3130	.4498	.5110
HANDLE - DOOR	183153	1	11ZN	.3551	1.0720			1.0720	1.5405	1.7500
RETURN SPRING - DOOR HANDLE	183155	1	11STWR	.0218	.1727			.1727	.2482	.2820
RUBBER BUMPER	183156	1	11RUB	.0027	.0580			.0580	.0833	.0946
ROLL PIN - DOOR HANDLE	183157	1	11CRS	.0332	.0965			.0965	.1387	.1576
DUST SHIELD	183158	1	11FMRB	.0424	.0865			.0865	.1243	.1412
ASSEMBLY COST					.3286			.3286	.4722	.5364



# 1983 CHEVROLET CAPRICE BOARD 1

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VEHICLE- 01- CHEVROLET CAPRICE

DESCRIPTION	ITEM NO.	QTY	MATL	WEIGHT	MATERIAL	LABOR	BURDEN	TOTAL	PRICE	WHOLESALE	CONSUMER	TOOLING
ASM - ARM REST	183201	1	21ASSY	1.5275	1.7750			1.7750	2.5507	2.8976	241.0	
FOAM PAD	183202	1	11URE	.0012	.0010			.0010	.0014	.0016		
SUPPORT - ARM REST	183203	1	11PVC	.8421	.8642			.8642	1.2419	1.4108	100.0	
REINFORCEMENT - ARM REST	183204	1	11CRS	.4529	.3367			.3367	.4838	.5496	75.0	
COVER - ARM REST	183205	1	11PVC	.2313	.3812			.3812	.5478	.6223	40.0	
ASSEMBLY COST					.1919			.1919	.2758	.3133	26.0	

VEHICLE- 04- CHEVROLET CAPRICE

DESCRIPTION	ITEM	NO.	QTY	MATERIAL	WEIGHT	VARIABLE MANUFACTURING COST			WHOLESALE CONSUMER TOOLING		
						MATERIAL	LABOR	BURDEN	TOTAL	PRICE	PRICE
ASM - SUNVISOR	183220	1	21	ASSY	1.0988	2.6642			2.6642	3.0286	4.3495
ASM - HINGE ROD - SUNVISOR	183221	1	1	ASSY	.1236	.7805			.7805	1.1216	1.2742
HINGE BRACKET	183222	1	1	ZN	.1266	.4635			.4635	.6660	.7546
HINGE REINFORCEMENT - SUNVISOR	183223	1	1	CRS	.1881	.1794			.1794	.2578	.2929
WASHER	183226	1	1	STL	.0048	.0200			.0200	.0287	.0326
SPRING - SUNVISOR	183227	1	1	STUR	.0150	.0500			.0500	.0719	.0817
CLIP	183228	1	1	SPST	.0167	.0370			.0370	.0532	.0604
STIFFENER - SUNVISOR	183229	1	1	F/BD	.3691	.2688			.2688	.3863	.4388
COVER - SUNVISOR	183230	1	1	RFB	.0672	.1243			.1243	.1786	.2029
PAD - SUNVISOR	183231	1	1	PAP	.1787	.0551			.0551	.0792	.0900
STAPLE	183235	1	3	STL	.0021	.0060			.0060	.0087	.0099
BUSHING	183239	1	1	PLAS	.0008	.0050			.0050	.0072	.0082
FASTENER	183240	1	1	STL	.0061	.0750			.0750	.1078	.1225
ASSEMBLY COST						.5996			.5996	.8616	.9788

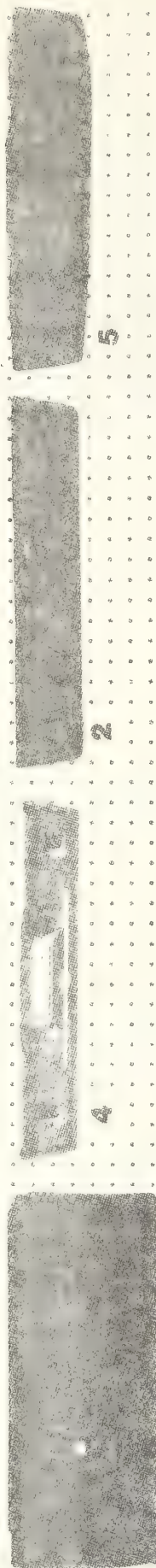
VEHICLE- 01-      CHEVROLET CAPRICE

DESCRIPTION	ITEM NO.	QTY	MATERIAL	WEIGHT	VARIABLE MANUFACTURING COST			WHOLESALE CONSUMER TOOLING		
					MATERIAL	LABOR	BURDEN	TOTAL	PRICE	PRICE
ASM - HINGE ROD - SUNVISOR	183221	1	21ASSY	.1236	.7805			.7805	1.1216	1.2742
INSERT - HINGE ROD	183221A	1	CRS	.0484	.2114			.2114	.3038	.3451
ROD - HINGE	183221B	1	ZN	.0752	.0468			.0468	.0673	.0765
ASSEMBLY COST					.5223			.5223	.7505	.8526
										69.0



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CHEVROLET CAPRICE BOARD 2



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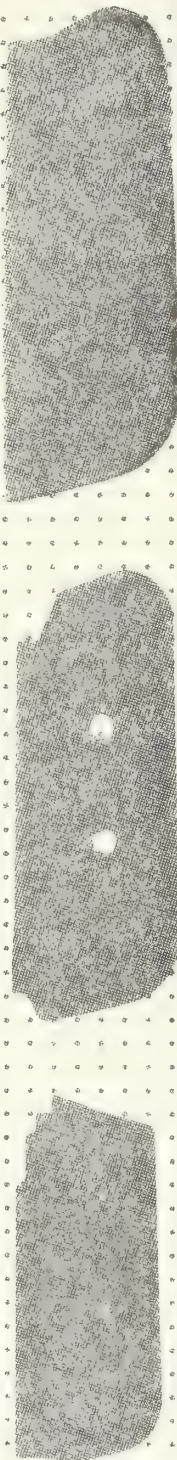
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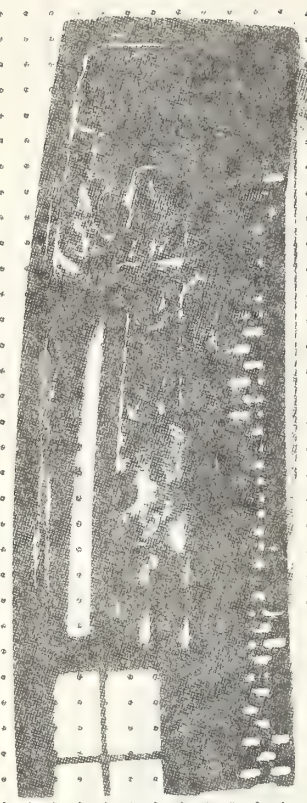
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VEHICLE- 01- CHEVROLET CAPRICE

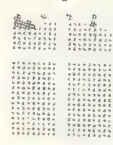
DESCRIPTION	ITEM NO.	QTY	MATL	WEIGHT	VARIABLE MATERIAL	MANUFACTURING LABOR	BURDEN	TOTAL	WHOLESALE PRICE	CONSUMER PRICE	TOOLING
ASM - INSTRUMENT PANEL PAD	183301	1	1	ASSY	8.2720	11.2903		11.2903	16.2244	18.4311	171.0
FOAM - INST. PNL. PAD	183302	1	1	PLYF	2.3800	3.1237		3.1237	4.4888	5.0993	
BASE SUPPORT - INST. PNL. PAD	183303	1	1	CRS	4.6279	5.1986		5.1986	7.4704	8.4864	80.0
COVER - INST. PNL. PAD	183304	1	1	PLAS	1.2289	1.9233		1.9233	2.7638	3.1397	27.0
RETAINER - SCREW	183305	1	1	PLAS	.0176	.0640		.0640	.0920	.1048	
RETAINER - SCREW	183306	1	1	PLAS	.0176	.0600		.0600	.0864	.0980	
ASSEMBLY COST						.9207		.9207	1.3230	1.5029	64.0

# 1983 CHEVROLET CAPRICE BOARD 3

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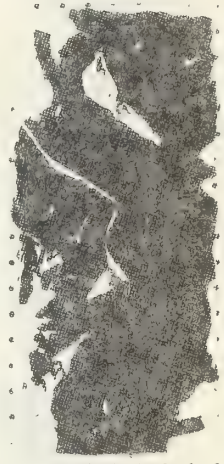
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VEHICLE- 01- CHEVROLET CAPRICE

DESCRIPTION	ITEM NO.	QTY	MATERIAL	WEIGHT	VARIABLE MANUFACTURING COST			TOTAL			WHOLESALE CONSUMER TOOLING		
					MATERIAL	LABOR	BURDEN	MATERIAL	LABOR	BURDEN	PRICE	PRICE	000S
ASM - SEAT BACK PAD (UPPER 6")	183401	2	ASSY	.7834	.6734	.0459	.0334	.7527	1.0816	1.2287			
MAIN PAD	183402	1	FMRB	.7609	.6456			.6456	.9277	1.0539			
BORDER WIRE	183405	1	STWR	.0135	.0038			.0038	.0055	.0062			
BORDER WIRE COVER	183406	1	PAP	.0090	.0240	.0459	.0334	.1033	.1484	.1686			
ASSEMBLY COST													



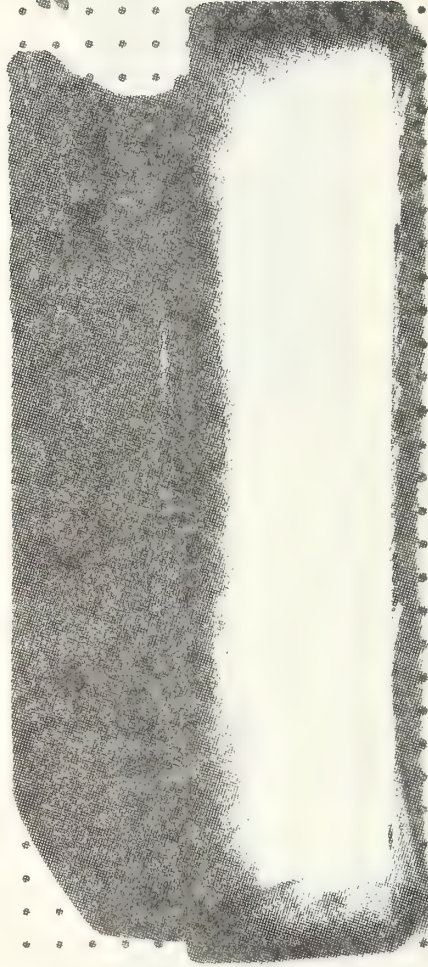
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# CHEVROLET CAPRICE BOARD 4.

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VEHICLE- 02- CHEVROLET MALIBU

DESCRIPTION	ITEM NO.	QTY	MATERIAL	WEIGHT	VARIABLE MANUFACTURING COST			WHOLESALE CONSUMER TOOLING		
					MATERIAL	LABOR	BURDEN	TOTAL	PRICE	PRICE
CHEVROLET MALIBU		1		16.0167	29.6408	.5628	.6164	30.8200	44.2877	50.3119
ASM - GLOVE COMPARTMENT LATCH	183101	1	1	.2787	.2571	.4710	.5496	1.2777	1.8360	2.0860
ASM - WINDOW REGULATOR HANDLE	183120	2	1	.4748	2.9442			2.9442	4.2308	4.8064
ASM - DOOR HANDLE	183151	2	1	.8384	2.6694			2.6694	3.8356	4.3574
ASM - ARM REST	183201	2	1	1.6582	2.5024			2.5024	3.5960	4.0850
ASM - SUNVISOR	183220	2	1	1.9448	5.6006			5.6006	8.0480	9.1430
ASM - INSTRUMENT PANEL PAD	183301	1	1	9.2498	14.0181			14.0181	20.1439	22.8835
ASM - SEAT BACK PAD (UPPER 6")	183401	2	1	1.5720	1.6490	.0918	.0668	1.8076	2.5974	2.9506
ASSEMBLY COST										

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VEHICLE- 02- CHEVROLET MALIBU

DESCRIPTION	ITEM NO.	QTY	MATERIAL	WEIGHT	VARIABLE MANUFACTURING COST			WHOLESALE		
					MATERIAL	LABOR	BURDEN	TOTAL	PRICE	PRICE
ASM - GLOVE COMPARTMENT LATCH	183101	1	11ASSY	.2787	.2571	.4710	.5496	1.2777	1.8360	2.0860
HOUSING - GLOVE COMPARTMENT LOCK	183102	1	11ZN	.1211	.0691	.0254	.0550	.1495	.2148	.2440
RELEASE KNOB	183103	1	11ZN	.0451	.0159	.1261	.1672	.3092	.4443	.5047
SPRING - RELEASE BUTTON	183104	1	11WIRE	.0006	.0100			.0100	.0144	.0164
LOCK HOUSING	183109	1	11ZN	.0319	.0176	.0116	.0265	.0557	.0800	.0909
LATCH - GLOVE COMPARTMENT DOOR	183112	1	11ZN	.0165	.0097	.0150	.0310	.0557	.0800	.0909
TUMBLER - GLOVE BOX LOCK	183113	1	51ERS	.0040	.0280	.0085	.0290	.0655	.0940	.1070
TUMBLER SPRING	183114	1	51WIRE	.0005	.0100			.0100	.0145	.0165
STRIKER - GLOVE BOX LOCK	183115	1	11HRS	.0510	.0290	.0088	.0320	.0698	.1003	.1139
WASHER	183119	1	11STL	.0022	.0050			.0050	.0072	.0082
MOUNTING SCREW	183198	1	21STL	.0058	.0580			.0580	.0834	.0948
ASSEMBLY COST					.0048	.2756	.2089	.4893	.7031	.7987

VEHICLE- 02- CHEVROLET MALIBU

DESCRIPTION	ITEM NO.	QTY	MATERIAL	WEIGHT	VARIABLE MANUFACTURING COST			TOTAL			WHOLESALE CONSUMER			TOOLING PRICE   0005	
					MATERIAL	LABOR	BURDEN	MATERIAL	LABOR	BURDEN	PRICE	PRICE	PRICE		
ASM - WINDOW REGULATOR HANDLE	183120	1	21ASSY	.2374	1.4721			1.4721			2.1154			2.4032	362.0
HANDLE - WINDOW REGULATOR	183121	1	11ZN	.1865	.8727			.8727			1.2541			1.4247	117.0
ASM - WINDOW REGULATOR HANDLE KNOB	183122	1	11ASSY	.0494	.3823			.3823			.5493			.6240	225.0
WASHER - SPRING	183127	1	11SSTL	.0002	.0100			.0100			.0144			.0164	
WASHER - SPACER	183128	1	11CRS	.0013	.0200			.0200			.0287			.0326	
ASSEMBLY COST					.1871			.1871			.2689			.3055	20.0



VEHICLE- 02- CHEVROLET MALIBU

DESCRIPTION	ITEM	NO.	QTY	MATL	WEIGHT	VARIABLE MANUFACTURING COST				WHOLESALE/ CONSUMER/ TOOLING		
						MATERIAL	LABOR	BURDEN	TOTAL	PRICE	PRICE	PRICE
ASM - WINDOW REGULATOR HANDLE KNOB	183122	1	21	ASSY	.0494	.3823			.3823	.5493	.6240	225.0
PLASTIC (MAT'L. ONLY)	183122A	1	1	PLAS	.0203	.0190			.0190	.0273	.0310	
GROMMET - WINDOW REG. HANDLE	183124	1	1	RUB	.0105	.0994			.0994	.1428	.1622	25.0
SHAFT - WINDOW REG. HANDLE	183125	1	1	ZN	.0158	.0427			.0427	.0614	.0698	60.0
CAP - WINDOW REG. HANDLE	183126	1	1	AL	.0028	.0374			.0374	.0537	.0610	25.0
ASSEMBLY COST						.1838			.1838	.2641	.3000	115.0



VEHICLE- 62- CHEVROLET MALIBU

DESCRIPTION	ITEM NO.	QTY	MATL	WEIGHT	VARIABLE MATERIAL	MANUFACTURING LABOR	BURDEN	TOTAL PRICE	WHOLESALE PRICE	CONSUMER PRICE	TOOLING PRICE
ASM - DOOR HANDLE	183154	1	21ASSY	.4192	1.3347			1.3347	1.9178	2.1787	201.0
HANDLE - DOOR	183153	1	11ZN	.2603	.9208			.9208	1.3232	1.5032	117.0
RETURN SPRING - DOOR HANDLE	183155	1	11WIRE	.0412	.0772			.0772	.1109	.1260	2.0
RETAINING PIN	183157	1	11CRS	.0217	.0413			.0413	.0593	.0674	2.0
BRACKET - DOOR HANDLE	183160	1	11CRS	.1260	.1319			.1319	.1895	.2153	75.0
ASSEMBLY COST					.1635			.1635	.2349	.2668	5.0

# 1983 CHEVROLET MALIBU BOARD 1

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IN 6' 12' 30' CM 15'

VEHICLE- 02-

VEHICLE- 02-

DESCRIPTION	ITEM NO.	QTY	MATERIAL	WEIGHT	VARIABLE MANUFACTURING COST			WHOLESALE CONSUMER TOOLING		
					MATERIAL	LABOR	BURDEN	TOTAL	PRICE	PRICE
ASM - ARM REST	183201	1	21ASSY	.8291	1.2512			1.2512	1.7980	2.0425
PAD - FOAM	183202	1	31PLYF	.1513	.1489			.1489	.2140	.2431
REINFORCEMENT - ARM REST	183204	1	11HRS	.4536	.4303			.4303	.6183	.7024
COVER - ARM REST	183205	1	11PVC	.2242	.5380			.5380	.7731	.8782
ASSEMBLY COST					.1340			.1340	.1926	.2188

VEHICLE- 02- CHEVROLET MALIBU

DESCRIPTION	ITEM NO.	QTY	MATERIAL	WEIGHT	VARIABLE MANUFACTURING COST				WHOLESALE/ CONSUMER/ TOOLING		
					MATERIAL	LABOR	BURDEN	TOTAL	PRICE	PRICE	PRICE
ASM - SUNVISOR	183220	1	2:ASSY	.9724	2.8003			2.8003	4.0240		4.5715
ASM - SUNVISOR HINGE ROD	183221	1	1:ASSY	.1236	.7805			.7805	1.1216		1.2742
HINGE BRACKET	183222	1	1:ZN	.1333	.4737			.4737	.6907		.7733
HINGE REINFORCEMENT - VISOR	183223	1	1:CRS	.1833	.1186			.1186	.1704		.1936
WASHER	183226	1	1:CRS	.0048	.0200			.0200	.0287		.0326
SPRING - SUNVISOR	183227	1	1:STWR	.0150	.0500			.0500	.0719		.0817
CLIP	183228	1	1:SPST	.0167	.0449			.0449	.0645		.0733
STIFFENER - SUNVISOR	183229	1	1:F/BD	.3137	.1012			.1012	.1454		.1652
COVER - SUNVISOR	183230	1	1:RFB	.0431	.0830			.0830	.1193		.1355
PAD - SUNVISOR	183231	1	1:VAR	.0756	.2653			.2653	.3812		.4330
OUTER HEAD COVER	183232	1	1:PLAS	.0184	.0343			.0343	.0493		.0560
STAPLE	183235	1	4:STL	.0032	.0080			.0080	.0116		.0132
CLIP END	183236	1	2:STL	.0330	.0400			.0400	.0574		.0652
BUSHING	183239	1	1:PLAS	.0008	.0050			.0050	.0072		.0082
FASTENER - SCREW	183240	1	1:STL	.0079	.0750			.0750	.1078		.1225
ASSEMBLY COST					.7008			.7008	1.0070		1.1440



VEHICLE- 02-- CHEVROLET MALIBU

DESCRIPTION	ITEM NO.	QTY	MATERIAL	WEIGHT	VARIABLE MATERIAL		LABOR	BURDEN	COST	TOTAL		WHOLESALE		CONSUMER		TOOLING
					MATERIAL					PRICE		PRICE				
ASM - SUNVISOR HINGE ROD	183221	1	21ASSY	.1236		.7805				.7805	1.1216	1.2742				82.0
INSERT - HINGE ROD	183221A	1	11CRS	.0484		.2114				.2114	.3038	.3451				13.0
ZINC (MAT'L. ONLY)	183221B	1	11ZN	.0752		.0468				.0468	.0673	.0765				
ASSEMBLY COST						.5223				.5223	.7505	.8526				69.0



# 1983 CHEVROLET MALIBU BOARD 2

2



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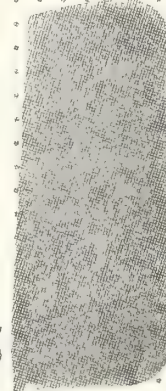
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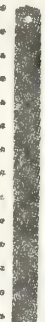
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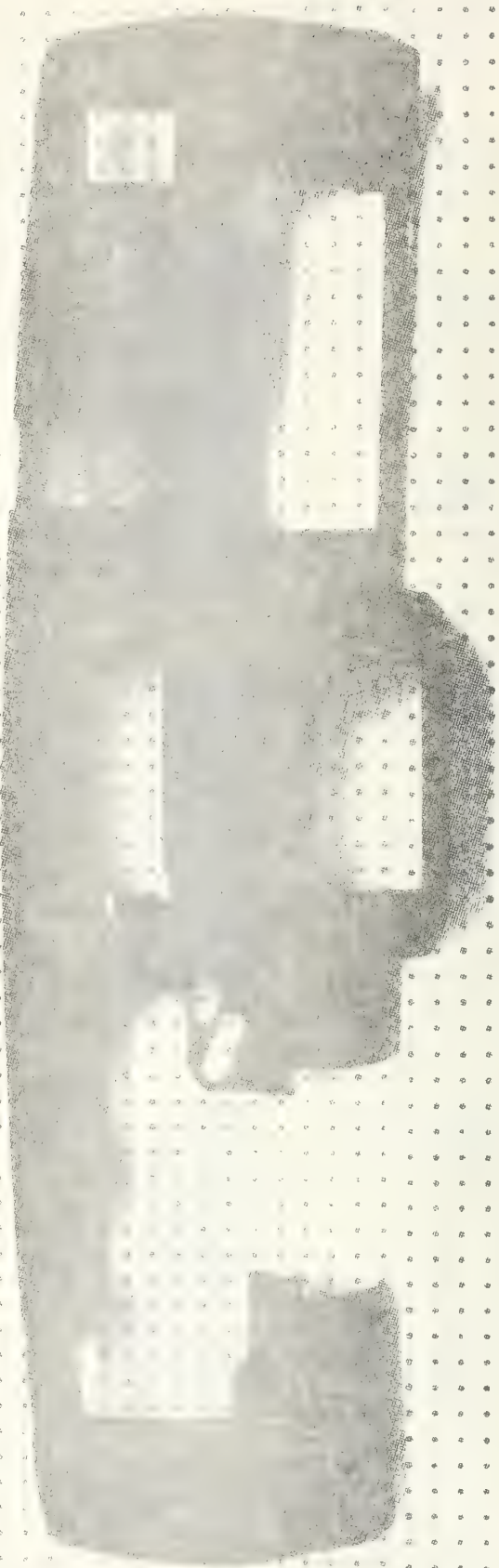


VEHICLE- 02- CHEVROLET MALIBU

DESCRIPTION	ITEM NO.	QTY	MATL	WEIGHT	ASSEMBLY	LABOR	PROD. BURDEN	TOTAL COST	PRICE	WHOLESALE PRICE	CONSUMER PRICE	TOOLING
ASM - INSTRUMENT PANEL PAD	183301	1	1	9.2498	14.0181			14.0181	20.1439	22.8835	237.0	
FOAM - INSTRUMENT PANEL PAD	183302	1	1	.8325	1.1472			1.1472	1.6485	1.8727		
BASE SUPPORT - INSTRUMENT PANEL	183303	1	1	6.5673	8.6028			8.6028	12.3622	14.0435	125.0	
COVER - INSTRUMENT PANEL PAD	183304	1	1	1.8500	2.9188			2.9188	4.1943	4.7647	27.0	
ASSEMBLY COST					1.3493			1.3493	1.9389	2.2026	85.0	

1983  
CHEVROLET MALIBU BOARD 3

IN	6	12	2
CM	15	30	4 3



VEHICLE- 02- CHEVROLET MALIBU

DESCRIPTION	ITEM NO.	QTY	MATERIAL	WEIGHT	MATERIAL	LABOR	BURDEN	VARIABLE MANUFACTURING COST			TOTAL			WHOLESALE CONSUMER TOOLING		
														PRICE	PRICE	000S
ASM - SEAT BACK PAD (UPPER 6")	183401	1	21ASSY	.7860	.8245	.0459	.0334	.9038	1.2987	1.4753						
MAIN PAD	183402	1	11FMRB	.6410	.5438			.5438	.7814	.8877						
PAD CROWN SUPPORT	183404	1	11FMRB	.1036	.2545			.2545	.3657	.4154						
BORDER WIRE	183405	1	11STWR	.0147	.0042			.0042	.0060	.0068						
BORDER WIRE COVER	183406	1	11FAP	.0267	.0220	.0459	.0334	.1013	.1456	.1654						
ASSEMBLY COST																



VEHICLE- 03- CHEVROLET CAVALIER

DESCRIPTION	ITEM NO.	QTY	MATERIAL	WEIGHT	VARIABLE MANUFACTURING COST			WHOLESALE CONSUMER TOOLING		
					MATERIAL	LABOR	BURDEN	TOTAL	PRICE	PRICE
CHEVROLET CAVALIER		1	1	18.3248	34.7987	.5948	.6570	36.0505	51.8037	58.8495
ASM - GLOVE COMPARTMENT LATCH	183101	1	1	ASSY	.2589	.3213	.6570	1.5731	2.2607	2.5682
ASM - WINDOW REGULATOR HANDLE	183120	1	1	ASSY	.4748	2.9490		2.9490	4.2374	4.8139
ASM - DOOR HANDLE	183151	1	1	ASSY	.5866	2.4956		2.4956	3.5860	4.0738
ASM - ARM REST	183201	1	1	ASSY	2.6822	4.2580		4.2580	6.1188	6.9508
ASM - SUNVISOR	183220	1	1	ASSY	2.4816	5.4004		5.4004	7.7602	8.8160
ASM - PASSENGER ASSIST HANDLE	183260	1	1	ASSY	.1237	2.7939		2.7939	4.0147	4.5607
ASM - INSTRUMENT PANEL PAD	183301	1	1	ASSY	10.2500	15.0035		15.0035	21.5599	24.4920
ASM - SEAT BACK PAD (UPPER 6")	183401	1	1	ASSY	1.4670	1.5770		1.5770	2.2660	2.5742
ASSEMBLY COST										



1983

# CHEVROLET MALIBU BOARD 4

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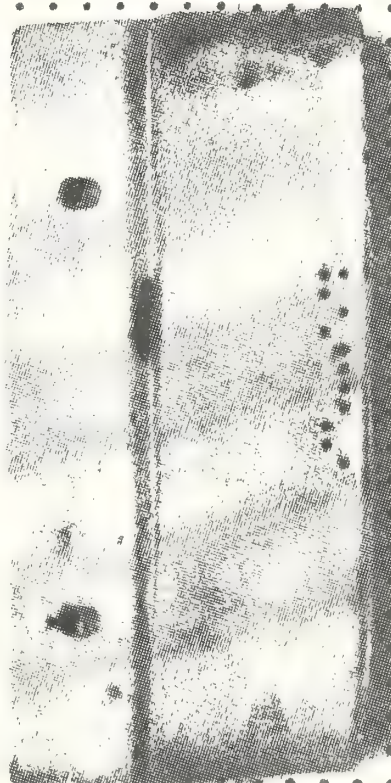
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IN 6 12  
CM 15 30



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VEHICLE- 03- CHEVROLET CAVALIER

DESCRIPTION	ITEM NO.	QTY/MATL	WEIGHT	VARIABLE MANUFACTURING COST			WHOLESALE CONSUMER TOOLING					
				MATERIAL	LABOR	BURDEN	TOTAL	PRICE	PRICE	000S		
ASM - GLOVE COMPARTMENT LATCH	83101	1	1	ASSY	.2589	.3213	.5948	.6570	1.5731	2.2607	2.5682	372.5
HOUSING - GLOVE BOX LOCK	83102	1	1	1ZN	.0900	.0518	.0254	.0550	.1322	.1900	.2158	70.0
RELEASE KNOB	83103	1	1	1ZN	.0435	.0300	.1261	.1672	.3233	.4646	.5278	67.0
SPRING - RELEASE BUTTON	83104	1	1	1WIRE	.0028	.0170			.0170	.0244	.0277	
SPRING - RELEASE TRIGGER	83106	1	1	1WIRE	.0006	.0170			.0170	.0244	.0277	
RETAINER - LOCK HOUSING	83107	1	1	1ZN	.0178	.0103	.0116	.0265	.0484	.0696	.0791	50.0
KNOB - LOCK HOUSING	83109	1	1	1ZN	.0510	.0288	.0116	.0265	.0669	.0961	.1092	60.0
LATCH - GLOVE BOX	83112	1	1	1HRS	.0085	.0055	.0047	.0166	.0268	.0385	.0437	25.0
TUMBLER - GLOVE BOX LOCK	83113	1	1	5HRS	.0040	.0230	.0085	.0290	.0605	.0870	.0990	50.0
TUMBLER SPRING	83114	1	1	5WIRE	.0005	.0100			.0100	.0145	.0165	
STRIKER - GLOVE BOX LOCK	83115	1	1	1STWR	.0191	.0099	.0088	.0320	.0507	.0729	.0828	40.0
ROLL PIN	83119A	1	1	1AL	.0007	.0010			.0010	.0014	.0016	
MOUNTING SCREW	83119B	2	1	21STL	.0204	.1100			.1100	.1580	.1794	
ASSEMBLY COST						.0070	.3981	.3042	.7093	1.0193	1.1579	10.5

## VEHICLE- 03- CHEVROLET CAVALIER

DESCRIPTION	ITEM NO.	QTY	MATERIAL	WEIGHT	VARIABLE MANUFACTURING COST			WHOLESALE CONSUMER TOOLING		
					MATERIAL	LABOR	BURDEN	TOTAL	PRICE	PRICE
ASM - WINDOW REGULATOR HANDLE	183120	1	21ASSY	.2374	1.4745			1.4745	2.1187	2.4069
HANDLE - WINDOW REGULATOR	183121	1	11ZN	.1865	.8749			.8749	1.2572	1.4282
ASM - WINDOW REGULATOR HANDLE KNOB	183122	1	11ASSY	.0494	.3825			.3825	.5495	.6242
WASHER - SPRING	183127	1	11SSTL	.0002	.0100			.0100	.0144	.0164
WASHER - SPACER	183128	1	11CRS	.0013	.0200			.0200	.0287	.0326
ASSEMBLY COST					.1871			.1871	.2689	.3055
										20.0

VEHICLE- 03- CHEVROLET CAVALIER

DESCRIPTION	ITEM NO.	QTY	MATL	WEIGHT	VARIABLE MANUFACTURING COST			WHOLESALE		
					MATERIAL	LABOR	BURDEN	TOTAL	PRICE	PRICE
ASM - WINDOW REGULATOR HANDLE KNOB	83122	1	21ASSY	.0494	.3825			.3825	.5495	.6242
PLASTIC (MAT'L. ONLY)	83122A	1	1PLAS	.0203	.0190			.0190	.0273	.0310
GROMMET - WINDOW REG. HANDLE KNOB	83124	1	1RUB	.0105	.0994			.0994	.1428	.1622
SHAFT - WINDOW REG. HANDLE KNOB	83125	1	11ZN	.0158	.0429			.0429	.0616	.0700
CAP - WINDOW REG. HANDLE KNOB	83126	1	11AL	.0028	.0374			.0374	.0537	.0610
ASSEMBLY COST					.1838			.1838	.2641	.3000
										.115.0



## VEHICLE- 03- CHEVROLET CAVALIER

DESCRIPTION	ITEM NO.	QTY	MATERIAL	WEIGHT	VARIABLE MANUFACTURING COST			WHOLESALE CONSUMER TOOLING		
					MATERIAL	LABOR	BURDEN	TOTAL	PRICE	PRICE
ASM - DOOR HANDLE	183151	1	21ASSY	.2933	1.2478			1.2478	1.7930	2.0369
HANDLE - DOOR	183153	1	1ZN	.1351	.8431			.8431	1.2115	1.3763
RETURN SPRING - DOOR HANDLE	183155	1	1WIRE	.0105	.0762			.0762	.1095	.1244
RETAINING PIN	183157	1	1CRS	.0217	.0331			.0331	.0476	.0541
BRACKET - DOOR HANDLE	183160	1	1CRS	.1260	.1319			.1319	.1895	.2153
ASSEMBLY COST					.1635			.1635	.2349	.2668

# 1983 CHEVROLET CAVALIER BOARD 1

3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100
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53	55	57	60
			

IN 6' 12' 30'

CM 15'

VEHICLE- 03- CHEVROLET CAVALIER

DESCRIPTION	ITEM NO.	QTY	MATERIAL	WEIGHT	VARIABLE MANUFACTURING COST			WHOLESALE CONSUMER		
					MATERIAL	LABOR	BURDEN	TOTAL	PRICE	PRICE
ASM - ARM REST	183201	1	21ASSY	1.3411	2.1290			2.1290	3.0594	3.4754
PAD - FOAM	183202	1	1PLYF	.0594	.0591			.0591	.0849	.0964
SUPPORT - ARM REST	183203	1	1ABS	.5122	.7121			.7121	1.0233	1.1625
REINFORCEMENT - ARM REST	183204	1	1AL	.0694	.1769			.1769	.2542	.2888
COVER - ARM REST	183205	1	1PVC	.6875	.8884			.8884	1.2766	1.4502
CLIP	183206	1	21STL	.0102	.0300			.0300	.0432	.0490
PLUG - ARM REST	183213	1	1ABS	.0024	.0147			.0147	.0211	.0240
ASSEMBLY COST					.2478			.2478	.3561	.4045

## VEHICLE- 03- CHEVROLET CAVALIER

DESCRIPTION	ITEM NO.	QTY	MATERIAL	WEIGHT	VARIABLE MANUFACTURING COST			WHOLESALE CONSUMER TOOLING		
					MATERIAL	LABOR	BURDEN	TOTAL	PRICE	PRICE
ASM - SUNVISOR	83220	1	ASSY	1.2408	2.7002			2.7002	3.8801	4.4080
ASM - SUNVISOR HINGE ROD	83221	1	ASSY	.1236	.7805			.7805	1.1216	1.2742
HINGE BRACKET	83222	1	ZN	.1266	.4635			.4635	.6660	.7566
HINGE REINFORCEMENT - VISOR	83223	1	CRS	.2033	.1304			.1304	.1874	.2129
WASHER	83226	1	CRS	.0048	.0200			.0200	.0287	.0326
SPRING - SUNVISOR	83227	1	STWR	.0150	.0500			.0500	.0719	.0817
CLIP	83228	1	SPST	.0167	.0449			.0449	.0645	.0733
STIFFENER - SUNVISOR	83229	1	F/BD	.4803	.1302			.1302	.1871	.2125
COVER - SUNVISOR	83230	1	RFB	.0926	.1678			.1678	.2411	.2739
PAD - SUNVISOR	83231	1	PAP	.1410	.0463			.0463	.0665	.0755
OUTER HEAD COVER	83232	1	FLAS	.0216	.0378			.0378	.0543	.0617
STAPLE	83235	4	STL	.0032	.0080			.0080	.0116	.0132
CLIP END	83236	2	SSTL	.0034	.0400			.0400	.0574	.0652
RUSHING	83239	1	FLAS	.0008	.0050			.0050	.0072	.0082
FASTENER - SCREW	83240	1	STL	.0079	.0750			.0750	.1078	.1225
ASSEMBLY COST					.7008			.7008	1.0070	1.1440
										33.0



VEHICLE- 03- CHEVROLET CAVALIER

DESCRIPTION	ITEM NO.	QTY	MATL	WEIGHT	VARIABLE MANUFACTURING COST				WHOLESALE CONSUMER TOOLING			
					MATERIAL	LABOR	BURDEN	TOTAL	PRICE	PRICE	PRICE	PRICE
ASM - SUNVISOR HINGE ROD	183221	1	21ASSY	.1236	.7805			.7805	1.1216	1.2742	82.0	
INSERT - HINGE ROD	183221A	1	CRS	.0484	.2114			.2114	.3038	.3451	13.0	
ZINC (MAT'L. ONLY)	183221B	1	ZN	.0752	.0468			.0468	.0673	.0765		
ASSEMBLY COST					.5223			.5223	.7505	.8526	69.0	

VEHICLE- 03- CHEVROLET CAVALIER

DESCRIPTION	ITEM NO.	QTY	MATERIAL	WEIGHT	VARIABLE MANUFACTURING COST			WHOLESALE CONSUMER TOOLING		
					MATERIAL	LABOR	BURDEN	TOTAL	PRICE	PRICE
ASM - PASSENGER ASSIST HANDLE	83260	1	1ASSY	.1237	2.7939			2.7939	4.0147	4.5607
HANDLE	83261	1	1SPST	.0437	.0646			.0646	.0928	.1054
COVER	83262	1	1UNL	.0126	.0438			.0438	.0629	.0715
REINFORCEMENT	83263	1	1PLYE	.0168	.0183			.0183	.0263	.0299
PADDING	83265	1	1URE	.0044	.0292			.0292	.0420	.0477
RETAINER - HANDLE	83266	2	2ZN	.0462	.1146			.1146	.1646	.1870
ASSEMBLY COST					2.5234			2.5234	3.6261	4.1192

# CHEVROLET CAVALIER BOARD 2

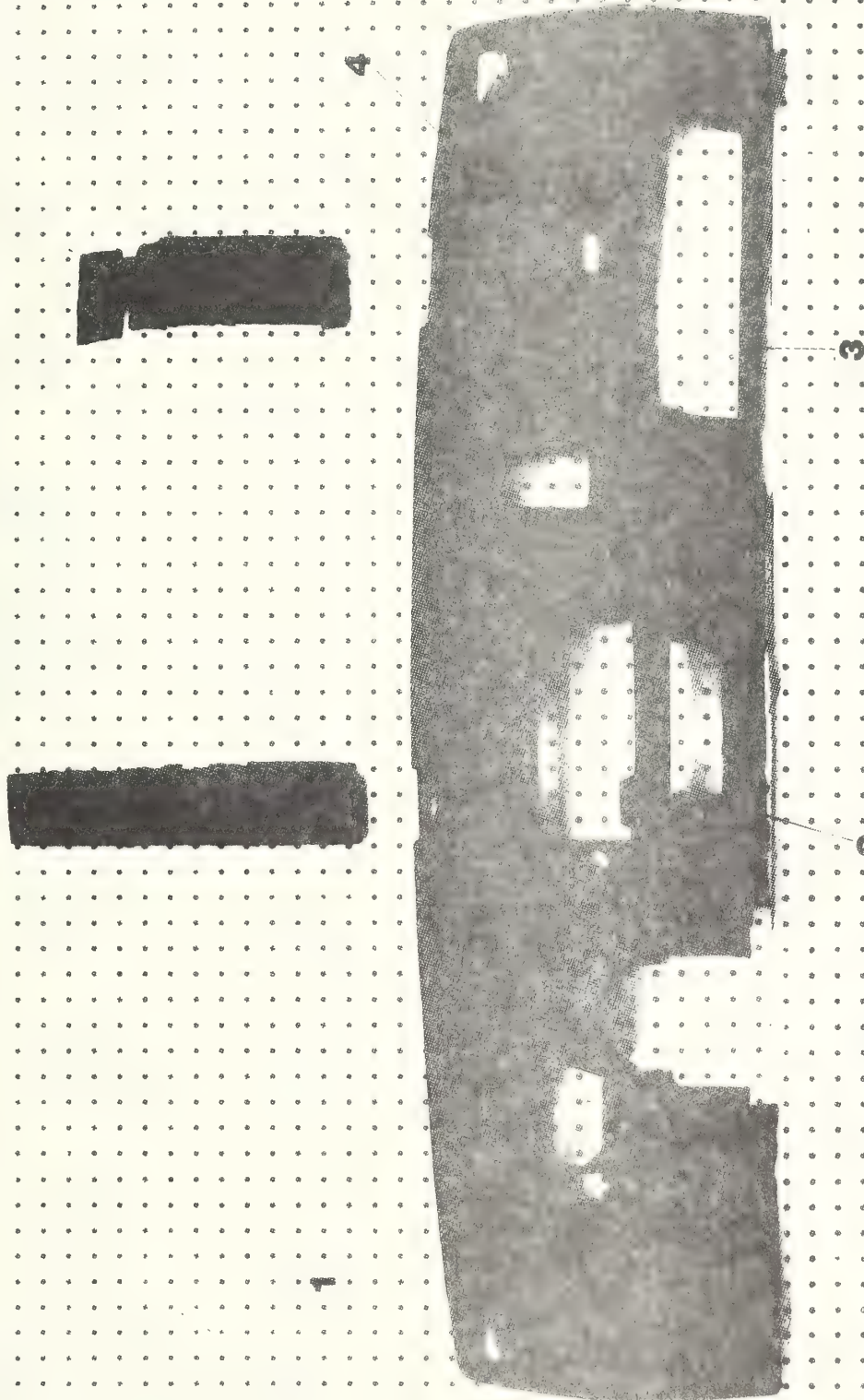


VEHICLE- 03- CHEVROLET CAVALIER

DESCRIPTION	ITEM NO.	QTY	MATERIAL	WEIGHT	VARIABLE MANUFACTURING COST			WHOLESALE CONSUMER TOOLING		
					MATERIAL	LABOR	BURDEN	TOTAL	PRICE	PRICE
ASM - INSTRUMENT PANEL PAD	183301	1	1:ASSY:	10.2500	15.0035			15.0035	21.5599	24.4920
FOAM PAD - INSTRUMENT PANEL	183302	1	1:PLY:	.9225	1.2712			1.2712	1.8267	2.0751
BASE SUPPORT - INSTRUMENT PANEL	183303	1	1:PLAS:	7.2775	9.4431			9.4431	13.5697	15.4152
COVER - INSTRUMENT PANEL PAD	183304	1	1:PLAS:	2.0500	2.9399			2.9399	4.2246	4.7991
ASSEMBLY COST					1.3493			1.3493	1.9389	2.2026
										85.0



1983  
CHEVROLET CAVALIER BOARD 3



COST SUMMARY OF FMVSS #201

VEHICLE- 03- CHEVROLET CAVALIER

DESCRIPTION	ITEM NO.	QTY	MATERIAL	WEIGHT	VARIABLE MANUFACTURING COST			WHOLESALE CONSUMER TOOLING		
					MATERIAL	LABOR	BURDEN	TOTAL	PRICE	PRICE
ASM - SEAT BACK PAD (UPPER 6")	183401	1	21ASSY	.7335	.7885			.7885	1.1330	1.2871
MAIN PAD	183402	1	1FMRB	.6580	.5582			.5582	.8021	.9112
PAD CROWN SUPPORT	183404	1	1FMRB	.0755	.2303			.2303	.3309	.3759
ASSEMBLY COST										

VEHICLE- 04- FORD CROWN VICTORIA

DESCRIPTION	ITEM NO.	QTY	MATERIAL	WEIGHT	VARIABLE MANUFACTURING COST			WHOLESALE CONSUMER TOOLING		
					MATERIAL	LABOR	BURDEN	TOTAL	PRICE	PRICE
FORD CROWN VICTORIA		1		16.7552	31.3774	.4983	.4816	32.3573	46.4976	52.8215
ASM - GLOVE COMPARTMENT LATCH	183101	1	1 ASSY	.1234	.1564	.4983	.4816	1.1363	1.6330	1.8554
ASM - WINDOW REGULATOR HANDLE	183120	2	2 ASSY	.5644	2.6596			2.6596	3.8218	4.3416
ASM - DOOR HANDLE	183151	2	2 ASSY	1.7008	4.2416			4.2416	6.0956	6.9242
ASM - ARM REST	183201	2	2 ASSY	4.0814	4.3324			4.3324	6.2258	7.0726
ASM - SUNVISOR	183220	2	2 ASSY	1.9408	5.2462			5.2462	7.5384	8.5638
ASM - INSTRUMENT PANEL PAD	183301	1	1 ASSY	6.5349	13.3803			13.3803	19.2274	21.8424
ASM - SEAT BACK PAD (UPPER 6")	183401	1	1 ASSY	1.8095	1.3609			1.3609	1.9556	2.2215

ASSEMBLY COST



1983

# CHEVROLET CAVALIER BOARD 4

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VEHICLE- 04- FORD CROWN VICTORIA

DESCRIPTION	ITEM NO.	QTY	MATERIAL	WEIGHT	VARIABLE MANUFACTURING COST			WHOLESALE/CONSUMER/IDDLNG		
					MATERIAL	LABOR	BURDEN	TOTAL	PRICE	PRICE
ASM - GLOVE COMPARTMENT LATCH	183101	1	1:ASSY:	.1234	.1564	.4983	.4816	1.1363	1.6330	1.8554
HOUSING - GLOVE BOX LOCK	183102	1	1:PLAS:	.0242	.0235	.0013	.0026	.0274	.0394	.0448
RELEASE BUTTON	183103	2	1:ABS:	.0112	.0144	.0126	.0320	.0590	.0848	.0964
TRIGGER - RELEASE	183105	2	1:ZN:	.0078	.0046	.0064	.0208	.0318	.0456	.0518
SPRING - RELEASE TRIGGER	183106	1	1:STL:	.0007	.0090			.0090	.0129	.0147
RETAINER	183107	1	1:PLAS:	.0029	.0029	.0032	.0052	.0113	.0162	.0184
KNOB - LOCK HOUSING	183109	1	1:ZN:	.0504	.0277	.0116	.0265	.0658	.0946	.1075
CAP	183110	1	1:AL:	.0018	.0055	.0016	.0043	.0114	.0164	.0186
BEZEL	183111	1	1:PLAS:	.0081	.0079	.0026	.0026	.0131	.0188	.0214
LATCH	183112	2	1:ZN:	.0096	.0056	.0064	.0208	.0328	.0472	.0536
TUMBLER - GLOVE BOX LOCK	183113	5	1:BR:	.0050	.0335	.0085	.0290	.0710	.1020	.1160
TUMBLER SPRING	183114	5	1:WIRE:	.0005	.0100			.0100	.0145	.0165
ROLLER	183118	2	1:RUB:	.0012	.0040			.0040	.0058	.0066
ASSEMBLY COST					.0078	.4441	.3378	.7897	1.1348	1.2891

VEHICLE- 04- FORD CROWN VICTORIA

DESCRIPTION	ITEM NO.	QTY	MATERIAL	WEIGHT	VARIABLE MATERIAL	LABOR	BURDEN	TOTAL	WHOLESALE PRICE	CONSUMER PRICE	TOOLING PRICE
ASM - WINDOW REGULATOR HANDLE	183120	1	21ASSY	.2822	1.3298			1.3298	1.9109	2.1708	232.0
HANDLE - WINDOW REGULATOR	183121	1	11ZN	.2378	.9040			.9040	1.2990	1.4757	117.0
ASM - WINDOW REGULATOR KNOB	183122	1	11ASSY	.0377	.1393			.1393	.2002	.2274	80.0
WASHER - SPRING	183127	1	11STL	.0002	.0100			.0100	.0144	.0164	
WASHER - SPACER	183128	1	11STL	.0022	.0200			.0200	.0287	.0326	
SPACER - WINDOW REG. HANDLE	183129	1	11PLY	.0043	.0214			.0214	.0308	.0350	25.0
ASSEMBLY COST					.2351			.2351	.3378	.3837	10.0

VEHICLE- 04- FORD CROWN VICTORIA

DESCRIPTION	ITEM NO.	QTY	MATERIAL	WEIGHT	VARIABLE MANUFACTURING COST			TOTAL			WHOLESALE CONSUMER TOOLING		
					MATERIAL	LABOR	BURDEN	MATERIAL	LABOR	BURDEN	PRICE	PRICE	PRICE
ASM - WINDOW REGULATOR KNOB	83122	1	2:ASSY	.0377	.1393			.1393			.2002	.2274	80.0
PLASTIC (MAT'L. ONLY)	83122A	1	1:PLAS	.0140	.0150			.0150			.0216	.0245	
SHAFT - WINDOW REG. KNOB	83125	1	1:CRS	.0132	.0193			.0193			.0277	.0315	35.0
CAP - WINDOW REG. KNOB	83126	1	1:CRS	.0105	.0237			.0237			.0341	.0387	20.0
ASSEMBLY COST					.0813			.0813			.1168	.1327	25.0

VEHICLE- 04- FORD CROWN VICTORIA

DESCRIPTION	ITEM NO.	QTY	MATERIAL	WEIGHT	VARIABLE MANUFACTURING COST			WHOLESALE CONSUMER TOOLING		
					MATERIAL	LABOR	BURDEN	TOTAL	PRICE	PRICE
ASM - DOOR HANDLE	183151	1	21ASSY	.8504	2.1208			2.1208	3.0478	3.4621
HOUSING - HANDLE	183152	1	1CRS	.2574	.2820			.2820	.4052	.4603
HANDLE	183153	1	1ZN	.3786	.9944			.9944	1.4290	1.6233
RETURN SPRING	183155	1	1STWR	.0409	.1328			.1328	.1908	.2167
RUBBER BUMPER	183156	1	1RUB	.0013	.0384			.0384	.0552	.0627
RETAINING PIN	183157	1	1CRS	.0271	.0384			.0384	.0552	.0627
BRACKET - INNER	183161	1	1CRS	.0836	.2099			.2099	.3016	.3426
BOLT - M6	183162	1	1STL	.0198	.0400			.0400	.0575	.0653
PAWL - LINK	183164	1	1CRS	.0200	.0285			.0285	.0410	.0466
PIN - PAWL RETAINER	183165	1	1STL	.0068	.0150			.0150	.0216	.0245
NUT	183168	1	1STL	.0105	.0400			.0400	.0575	.0653
RIVET - PAWL BRACKET	183169	1	1STL	.0044	.0150			.0150	.0216	.0245
ASSEMBLY COST					.2864			.2864	.4116	.4676



# 1983 FORD CROWN VICTORIA BOARD 1

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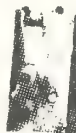
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VEHICLE- 04- FORD CROWN VICTORIA

DESCRIPTION	ITEM NO.	QTY	MATERIAL	WEIGHT	VARIABLE MANUFACTURING COST				WHOLESALE/ CONSUMER/ DOLLAR			
					MATERIAL	LABOR	BURDEN	TOTAL	PRICE	PRICE	PRICE	PRICE
ASM - ARM REST	183201	1	21ASSY	2.0407	2.1662			2.1662	3.1129	3.5363	100.0	
FOAM PAD	183202	1	1URE	.4923	.4683			.4683	.6729	.7644		
SUPPORT	183203	1	1URE	.6741	.7720			.7720	1.1094	1.2603	40.0	
COVER	183205	1	1PVC	.8743	.7919			.7919	1.1380	1.2928	30.0	
ASSEMBLY COST					.1340			.1340	.1926	.2188	30.0	

VEHICLE- 04- FORD CROWN VICTORIA

DESCRIPTION	ITEM NO.	QTY	MATERIAL	WEIGHT	MATERIAL	LABOR	BURDEN	TOTAL	WHOLESALE CONSUMER	
									PRICE	PRICE
ASM - SUNVISOR	183220	1	21ASSY	.9704	2.6231			2.6231	3.7692	4.2819
HINGE ROD	183221	1	11CRS	.1678	.5864			.5864	.8427	.9573
HINGE BRACKET - VISOR	183222	1	11ZN	.0616	.4521			.4521	.6497	.7381
HINGE REINFORCEMENT - VISOR	183223	1	11G/STL	.1769	.1170			.1170	.1681	.1910
WASHER	183226	2	21STL	.0026	.0300			.0300	.0432	.0490
SPRING	183227	1	11STWR	.0055	.0450			.0450	.0647	.0735
STIFFENER - SUNVISOR	183229	1	11F/BD	.2643	.1052			.1052	.1512	.1718
COVER - SUNVISOR	183230	1	11RFB	.0653	.4645			.4645	.6675	.7583
PAD - FRICTION COATED - VISOR	183231	1	11PAP	.1958	.0650			.0650	.0934	.1061
OUTER HEAD COVER - VISOR	183232	1	11PLAS	.0215	.0368			.0368	.0529	.0601
STAPLE	183235	9	11STL	.0054	.0090			.0090	.0126	.0144
CLIP END	183236	1	11SSTL	.0022	.0200			.0200	.0287	.0326
CLIP END - OUTER	183249	1	11SSTL	.0015	.0200			.0200	.0287	.0326
ASSEMBLY COST					.6721			.6721	.9658	1.0971



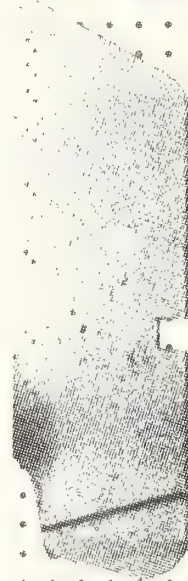
# 1983 FORD CROWN VICTORIA BOARD 2



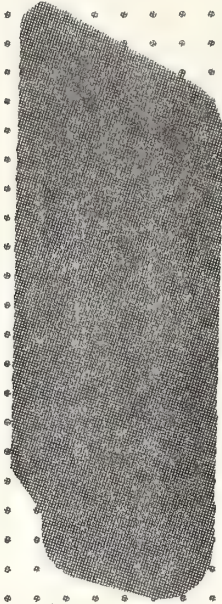
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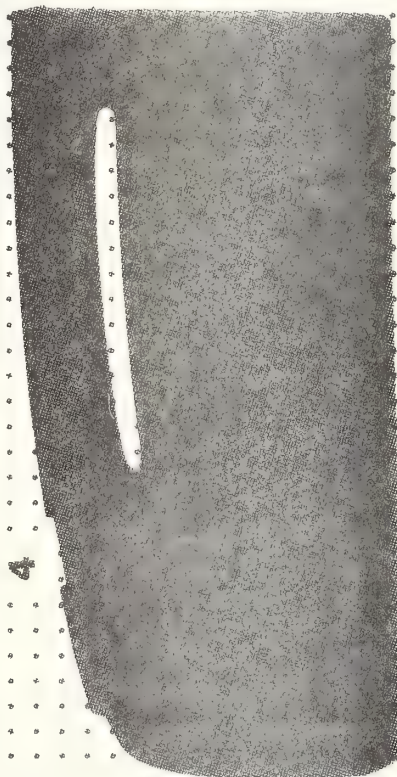
VEHICLE- 04- FORD CROWN VICTORIA

DESCRIPTION	ITEM NO.1 QTY	MATERIAL	WEIGHT	VARIABLE MANUFACTURING COST			TOTAL			WHOLESALE CONSUMER		
				MATERIAL	LABOR	BURDEN	MATERIAL	LABOR	BURDEN	PRICE	PRICE	PRICE
ASM - INSTRUMENT PANEL PAD	183301	11ASSY	6.5349	13.3803			13.3803	19.2274	21.8424	296.0		
FOAM - INST. PNL. PAD	183302	11PLYF	2.0350	2.9380			2.9380	4.2219	4.7961			
SUPPORT - INST. PNL. PAD	183303	11ABS	3.0000	6.9820			6.9820	10.0331	11.3976	180.0		
COVER - INST. PNL. PAD	183304	11PLAS	.8664	1.4744			1.4744	2.1187	2.4068	27.0		
U-NUT	183307	51STL	.0465	.1350			.1350	.1940	.2205			
REINFORCEMENT - INST. PNL. PAD SUP	183308	11CRS	.3538	.2732			.2732	.3926	.4460	15.0		
INSULATION - INST. PNL. PAD	183309	11FELT	.2332	.6570			.6570	.9441	1.0725	10.0		
ASSEMBLY COST				.9207			.9207	1.3230	1.5029	64.0		

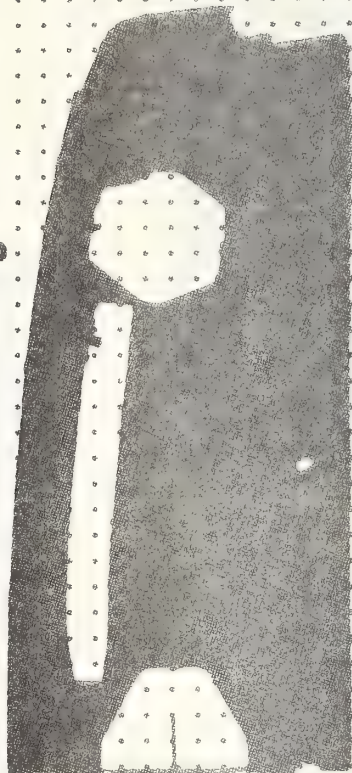
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FORD CROWN VICTORIA BOARD 3

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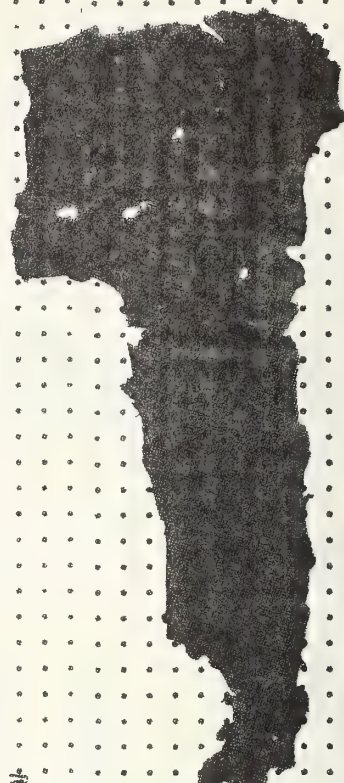
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IN 6 12  
CM 15 30

VEHICLE- 04- FORD CROWN VICTORIA

DESCRIPTION	ITEM NO.	QTY	MATERIAL	WEIGHT	VARIABLE MANUFACTURING COST				WHOLESALE CONSUMER TOOLING	
					MATERIAL	LABOR	BURDEN	TOTAL	PRICE	PRICE
ASM - SEAT BACK PAD (UPPER 6")	83401	1	1ASSY	1.8095	1.3609			1.3609	1.9556	2.2215
MAIN PAD	83402	1	1FMRB	1.4997	1.2723			1.2723	1.8283	2.0769
BORDER WIRE	83405	1	1STWR	.3098	.0886			.0886	.1273	.1446
ASSEMBLY COST										



3/19/85

COST SUMMARY OF FMVSS #201

VOLUME- 300000

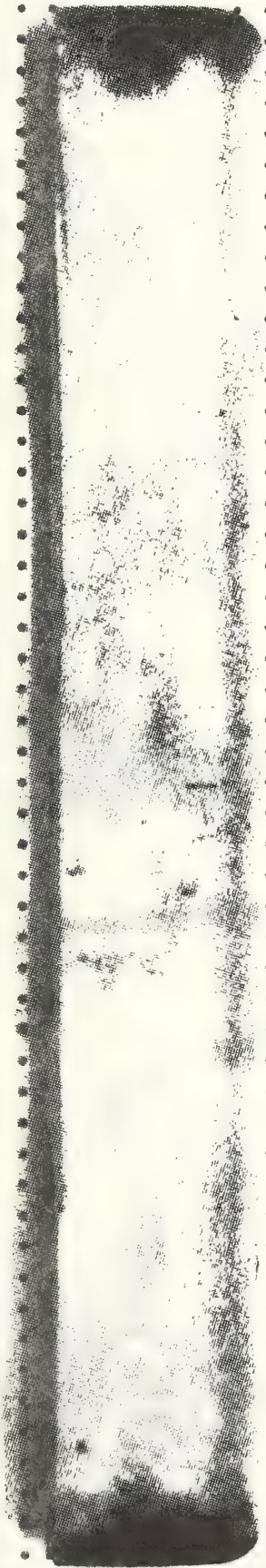
VEHICLE- 05- FORD LTD

DESCRIPTION	ITEM NO.	QTY	MATERIAL	WEIGHT	VARIABLE MANUFACTURING COST				WHOLESALE CONSUMER PRICING			
					MATERIAL	LABOR	BURDEN	TOTAL	PRICE	PRICE	PRICE	PRICE
FORD LTD		1		11.4876	26.8677	.4983	.4816	27.8476	40.0161	45.4588	1366.5	
ASM - GLOVE COMPARTMENT LATCH	83101	1	ASSY	.1234	.1564	.4983	.4816	1.1363	1.6330	1.8554	340.5	
ASM - WINDOW REGULATOR HANDLE	83120	2	ASSY	.5534	2.6440			2.6440	3.7992	4.3160	232.0	
ASM - DOOR HANDLE	83151	2	ASSY	.2628	1.1828			1.1828	1.6998	1.9310	145.0	
ASM - ARM REST	83201	2	ASSY	2.8864	3.5468			3.5468	5.0968	5.7898	80.0	
ASM - SUNVISOR	83220	2	ASSY	1.7146	5.1258			5.1258	7.3650	8.3668	208.0	
ASM - INSTRUMENT PANEL PAD	83301	1	ASSY	4.5250	12.7837			12.7837	18.3699	20.8682	361.0	
ASM - SEAT BACK PAD (UPPER 6")	83401	2	ASSY	1.4220	1.4282			1.4282	2.0524	2.3316		
ASSEMBLY COST												



# 1983 FORD CROWN VICTORIA BOARD 4

IN 6 12  
CM 15 30



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VEHICLE- 05- FORD LTD.

DESCRIPTION	ITEM NO.	QTY	MATERIAL	WEIGHT	VARIABLE MANUFACTURING COST			WHOLESALE/CONSUMER TOOLING		
					MATERIAL	LABOR	BURDEN	TOTAL	PRICE	PRICE
ASM - GLOVE COMPARTMENT LATCH	183101	1	1 ASSY	.1234	.1564	.4983	.4816	1.1363	1.6330	1.8554
HOUSING - GLOVE BOX LOCK	183102	1	1 PLAS	.0242	.0235	.0013	.0026	.0274	.0394	.0448
RELEASE BUTTON	183103	1	2 BRS	.0112	.0144	.0126	.0320	.0590	.0848	.0964
TRIGGER - RELEASE	183105	1	2 ZN	.0078	.0046	.0064	.0208	.0318	.0456	.0518
SPRING - RELEASE TRIGGER	183106	1	1 STL	.0007	.0090			.0090	.0129	.0147
RETAINER	183107	1	1 PLAS	.0029	.0029	.0032	.0052	.0113	.0162	.0184
KNOB - LOCK HOUSING	183109	1	1 ZN	.0504	.0277	.0116	.0265	.0658	.0946	.1075
CAP	183110	1	1 AL	.0018	.0055	.0016	.0043	.0114	.0164	.0186
BEZEL	183111	1	1 PLAS	.0081	.0079	.0026	.0026	.0131	.0188	.0214
LATCH	183112	1	2 ZN	.0096	.0056	.0064	.0208	.0328	.0472	.0536
TUMBLER - GLOVE BOX LOCK	183113	1	5 BRS	.0050	.0335	.0085	.0290	.0710	.1020	.1160
TUMBLER SPRING	183114	1	5 WIRE	.0005	.0100			.0100	.0145	.0165
ROLLER	183118	1	2 RUB	.0012	.0040			.0040	.0058	.0066
ASSEMBLY COST					.0078	.4441	.3378	.7897	1.1348	1.2891

VEHICLE- 05- FORD LTD

DESCRIPTION	ITEM NO.	QTY	MATERIAL	WEIGHT	VARIABLE MANUFACTURING COST			WHOLESALE CONSUMER TOOLING		
					MATERIAL	LABOR	BURDEN	TOTAL	PRICE	PRICE
ASM - WINDOW REGULATOR HANDLE	183120	1	21ASSY	.2767	1.3220			1.3220	1.8996	2.1580
HANDLE - WINDOW REGULATOR	183121	1	11ZN	.2371	.9065			.9065	1.3026	1.4798
ASM - WINDOW REGULATOR KNOB	183122	1	11ASSY	.0342	.1303			.1303	.1872	.2127
WASHER - SPRING	183127	1	11STL	.0005	.0100			.0100	.0144	.0164
WASHER - SPACER	183128	1	11STL	.0023	.0200			.0200	.0287	.0326
SPACER - WINDOW REGULATOR	183129	1	11PLYP	.0026	.0201			.0201	.0289	.0328
ASSEMBLY COST					.2351			.2351	.3378	.3837
										10.0

VEHICLE-05- FORD LTD

DESCRIPTION	ITEM NO.	QTY	MATERIAL	WEIGHT	VARIABLE MANUFACTURING COST			WHOLESALE CONSUMER TOOLING		
					MATERIAL	LABOR	BURDEN	TOTAL	PRICE	PRICE
ASM - WINDOW REGULATOR KNOB	183122	1	21ASSY	.0342	.1303			.1303	.1872	.2127
PLASTIC (MAT'L. ONLY)	183122A	1	1PLAS	.0105	.0060			.0060	.0086	.0098
SHAFT - WINDOW REG. KNOB	183125	1	1CRS	.0132	.0193			.0193	.0277	.0315
CAP - WINDOW REG. KNOB	183126	1	1CRS	.0105	.0237			.0237	.0341	.0387
ASSEMBLY COST					.0813			.0813	.1168	.1327



VEHICLE- 05- FORD LTD

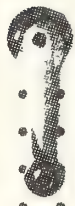
DESCRIPTION	ITEM NO.	QTY	MATL	WEIGHT	VARIABLE MANUFACTURING COST			WHOLESALE CONSUMER TOOLING		
					MATERIAL	LABOR	BURDEN	TOTAL	PRICE	PRICE
ASM - DOOR HANDLE	183151	2	ASSY	.1314	.5914			.5914	.8499	.9655
HOUSING - DOOR HANDLE	183152	1	ABS	.0618	.1125			.1125	.1617	.1837
HANDLE - DOOR	183153	1	ABS	.0398	.0818			.0818	.1175	.1335
RETURN SPRING - DOOR HANDLE	183155	1	WIRE	.0125	.0664			.0664	.0954	.1084
RETAINING PIN	183157	1	STL	.0040	.0100			.0100	.0144	.0164
PAWL (LINK) - DOOR LOCK	183164	1	PLAS	.0058	.0330			.0330	.0474	.0538
ROLL PIN - PAWL	183165	1	STL	.0075	.0150			.0150	.0216	.0245
ASSEMBLY COST					.2727			.2727	.3919	.4452

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# 1983 FORD L.T.D. BOARD 1



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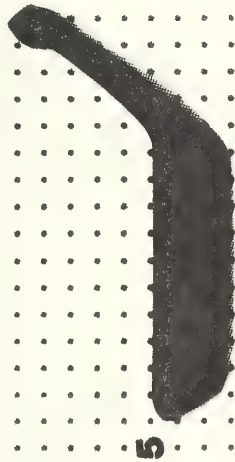
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VEHICLE- 05- FORD LTD

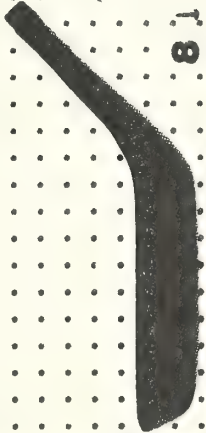
DESCRIPTION	ITEM NO.	QTY	MATERIAL	WEIGHT	VARIABLE MANUFACTURING COST			WHOLESALE CONSUMER TOOLING		
					MATERIAL	LABOR	BURDEN	TOTAL	PRICE	PRICE
ASM - SUNVISOR	183220	1	21ASSY	.8573	2.5629			2.5629	3.6825	4.1834
HINGE ROD	183221	1	11CRS	.1721	.6625			.6625	.9520	1.0815
HINGE BRACKET - VISOR	183222	1	11ZN	.0616	.4521			.4521	.6497	.7381
HINGE REINFORCEMENT - VISOR	183223	1	11G/ST	.1473	.1210			.1210	.1739	.1976
WASHER	183226	1	11STL	.0013	.0150			.0150	.0216	.0245
SPRING	183227	1	11STWR	.0055	.0450			.0450	.0647	.0735
STIFFENER - SUNVISOR	183229	1	11F/BD	.2451	.1012			.1012	.1454	.1652
COVER - SUNVISOR	183230	1	11RBF	.0483	.3460			.3460	.4972	.5648
PAD - FRICTION COATED - VISOR	183231	1	11PAP	.1437	.0568			.0568	.0816	.0927
OUTER BEAD COVER - VISOR	183232	1	11PLAS	.0231	.0422			.0422	.0606	.0688
STAPLE	183235	1	91STL	.0054	.0090			.0090	.0126	.0144
CLIP END	183236	1	11SSTL	.0020	.0200			.0200	.0287	.0326
CLIP END - OUTER	183249	1	11SSTL	.0019	.0200			.0200	.0287	.0326
ASSEMBLY COST					.6721			.6721	.9658	1.0971
										31.0



# 1983 FORD L.T.D. BOARD 2



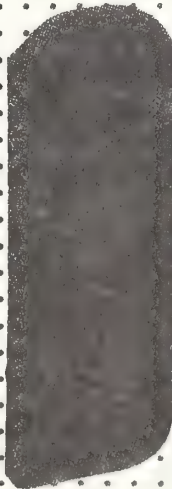
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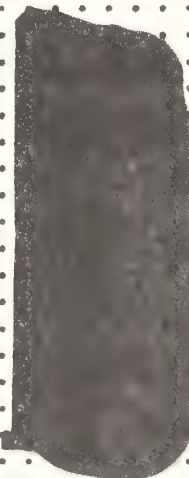
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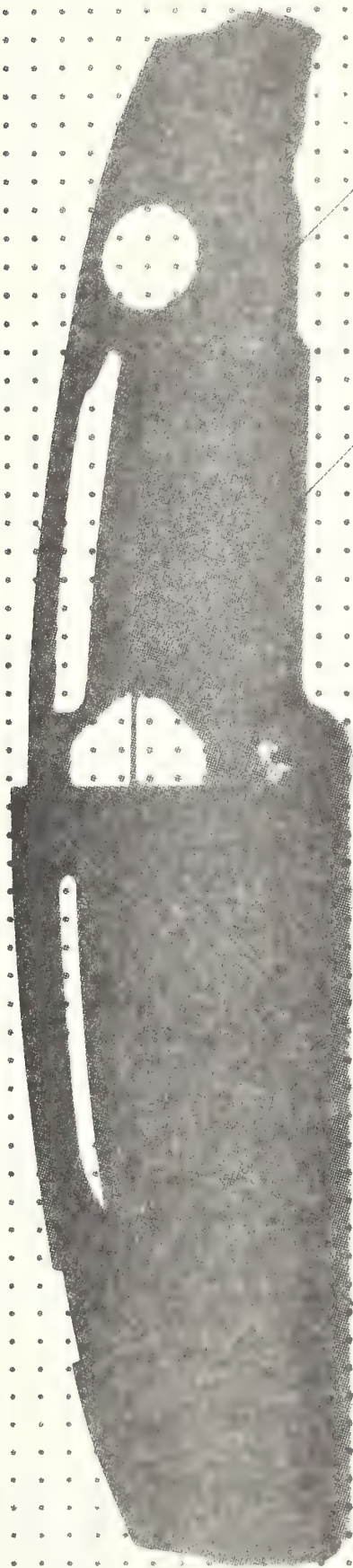
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VEHICLE- 05- FORD LTD

DESCRIPTION	ITEM NO.	QTY	MATERIAL	WEIGHT	MATERIAL	LABOR	BURDEN	TOTAL	WHOLESALE		CONSUMER	
									PRICE	PRICE	PRICE	PRICE
ASM - INSTRUMENT PANEL PAD	183301	1	1:ASSY	4.5250	12.7837			12.7837	18.3699	20.8682	361.0	
FOAM - INST. FNL. PAD	183302	1	1:PLYF	.9953	1.3063			1.3063	1.8772	2.1325		
REINFORCEMENT - INST. FNL. PAD	183303	1	1:ABS	2.6504	8.9939			8.9939	12.9242	14.6819	270.0	
COVER - INST. FNL. PAD	183304	1	1:PLAS	.8409	1.4428			1.4428	2.0733	2.3553	27.0	
U-NUT	183307	6	1:STL	.0384	.1200			.1200	.1722	.1956		
ASSEMBLY COST					.9207			.9207	1.3230	1.5029	64.0	

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# 1983 FORD L.T.D. BOARD 3



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DESCRIPTION	ITEM NO.	QTY	MATERIAL	WEIGHT	VARIABLE MANUFACTURING COST			WHOLESALE CONSUMER TOOLING		
					MATERIAL	LABOR	BURDEN	TOTAL	PRICE	PRICE
ASM - SEAT BACK PAD (UPPER 6")	183401	1	2:ASSY	.7110	.7141			.7141	1.0262	1.1658
MAIN PAD	183402	1	1:FMRB	.5375	.4560			.4560	.6553	.7444
PAD CROWN SUPPORT	183404	1	1:FMRB	.1471	.2505			.2505	.3600	.4090
BORDER WIRE	183405	1	1:STWR	.0264	.0076			.0076	.0109	.0124
ASSEMBLY COST										

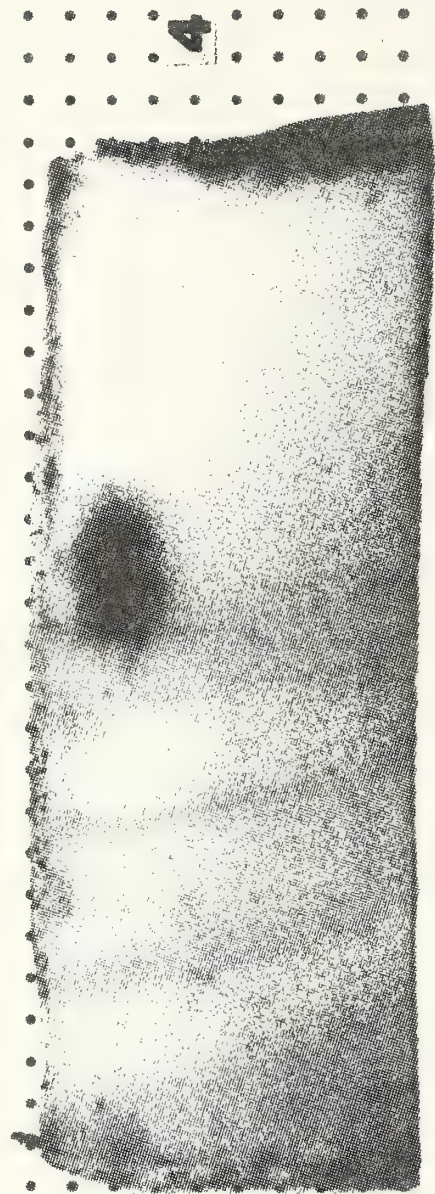


DESCRIPTION	ITEM NO.	QTY	MATERIAL	WEIGHT	VARIABLE MANUFACTURING COST			WHOLESALE/ CONSUMER TOOLING		
					MATERIAL	LABOR	BURDEN	TOTAL	PRICE	PRICE
FORD MUSTANG		1	1	11.4955	26.7543	.3636	.3159	27.4338	39.4216	44.7834
ASM - GLOVE BOX LOCK	183101	1	1	11.4955	26.7543	.3636	.3159	27.4338	39.4216	44.7834
ASM - WINDOW REGULATOR HANDLE	183120	2	2	55.68	2.6464			2.6464	3.8026	4.3200
ASM - DOOR HANDLE	183151	2	2	26.28	1.1828			1.1828	1.6998	1.9310
ASM - ARM REST	183201	2	2	2.8864	3.5468			3.5468	5.0968	5.7898
ASM - SUNVISOR	183220	2	2	1.6952	4.8002			4.8002	6.8974	7.8356
ASM - INSTRUMENT PANEL PAD	183301	1	1	4.5250	12.7837			12.7837	18.3699	20.8682
ASM - SEAT BACK PAD (UPPER 6")	183401	2	2	1.4822	1.6472			1.6472	2.3670	2.6890
ASSEMBLY COST										

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DESCRIPTION	ITEM NO.	QTY	MATERIAL	WEIGHT	VARIABLE MANUFACTURING COST				WHOLESALE CONSUMER TOOLING		
					MATERIAL	LABOR	BURDEN	TOTAL	PRICE	PRICE	PRICE
ASM - GLOVE BOX LOCK	83101	1	ASSY	.0871	.1472	.3636	.3159	.8267	1.1881	1.3498	159.0
HOUSING - GLOVE BOX LOCK	83102	1	PLAS	.0242	.0273	.0032	.0052	.0357	.0513	.0583	20.0
SPRING - RELEASE BUTTON	83104	1	WIRE	.0018	.0150			.0150	.0216	.0245	
RETAINER - GLOVE BOX LOCK	83107	1	PLAS	.0048	.0059	.0032	.0052	.0143	.0205	.0233	20.0
RELEASE HANDLE - GLOVE BOX LOCK	83109	1	PLAS	.0249	.0282	.0045	.0052	.0379	.0545	.0619	20.0
LATCH - GLOVE BOX LOCK	83112	1	PLAS	.0046	.0045	.0032	.0052	.0129	.0185	.0210	20.0
TUMBLER - GLOVE BOX LOCK	83113	5	BRS	.0050	.0335	.0085	.0290	.0710	.1020	.1160	50.0
TUMBLER SPRING	83114	5	WIRE	.0005	.0100			.0100	.0145	.0165	
STRIKER - GLOVE BOX	83115	1	WIRE	.0200	.0069	.0040	.0108	.0217	.0312	.0354	20.0
SPRING - STRIKER RELEASE	83117	1	STL	.0013	.0100			.0100	.0144	.0164	
ASSEMBLY COST					.0059	.3370	.2553	.5982	.8596	.9765	9.0

# COST SUMMARY OF FMVSS #201

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VOLUME- 300000

VEHICLE- 06- FORD MUSTANG

DESCRIPTION	ITEM NO.	QTY	MATL	WEIGHT	MATERIAL	VARIABLE MANUFACTURING COST LABOR	BURDEN	TOTAL	WHOLESALE PRICE	CONSUMER PRICE	TOOLING 000S
ASM - WINDOW REGULATOR HANDLE	83120	1	2:ASSY	.2784	1.3232			1.3232	1.9013	2.1600	232.0
HANDLE - WINDOW REGULATOR	83121	1	1:ZN	.2371	.9065			.9065	1.3026	1.4798	117.0
ASM - WINDOW REGULATOR KNOR	83122	1	1:ASSY	.0342	.1303			.1303	.1872	.2127	80.0
WASHER - SPRING	83127	1	1:STL	.0005	.0100			.0100	.0144	.0164	
WASHER - SPACER	83128	1	1:STL	.0023	.0200			.0200	.0287	.0326	
SPACER - WINDOW REGULATOR	83129	1	1:PLYP	.0043	.0213			.0213	.0306	.0348	25.0
ASSEMBLY COST					.2351			.2351	.3378	.3837	10.0



VEHICLE- 06- FORD MUSTANG

DESCRIPTION	ITEM NO.	QTY	MATERIAL	WEIGHT	VARIABLE MANUFACTURING COST			WHOLESALE CONSUMER TOOLING		
					MATERIAL	LABOR	BURDEN	TOTAL	PRICE	PRICE
ASM - WINDOW REGULATOR KNOB	183122	1	21ASSY	.0342	.1303			.1303	.1872	.2127
PLASTIC (MAT'L. ONLY)	183122A	1	PLAS	.0105	.0060			.0060	.0086	.0098
SHAFT - WINDOW REG. KNOB	183125	1	1CRS	.0132	.0193			.0193	.0277	.0315
CAP - WINDOW REG. KNOB	183126	1	1CRS	.0105	.0237			.0237	.0341	.0387
ASSEMBLY COST					.0813			.0813	.1168	.1327
										25.0

VEHICLE- 06- FORD MUSTANG

DESCRIPTION	ITEM NO.	QTY	MATL	WEIGHT	VARIABLE MANUFACTURING COST			WHOLESALE CONSUMER TOOLING		
					MATERIAL	LABOR	BURDEN	TOTAL	PRICE	PRICE
ASM - DOOR HANDLE	83151	1	21ASSY	.1314	.5914			.5914	.8499	.9655
HOUSING - DOOR HANDLE	83152	1	1FABS	.0618	.1125			.1125	.1617	.1837
HANDLE - DOOR	83153	1	1FABS	.0398	.0818			.0818	.1175	.1335
RETURN SPRING - DOOR HANDLE	83155	1	1WIRE	.0125	.0664			.0664	.0954	.1084
RETAINING PIN	83157	1	1STL	.0040	.0100			.0100	.0144	.0164
PAWL (LINK) - DOOR LOCK	83164	1	1PLAS	.0058	.0330			.0330	.0474	.0538
ROLL PIN - PAWL	83165	1	1STL	.0075	.0150			.0150	.0216	.0245
ASSEMBLY COST					.2727			.2727	.3919	.4452

# 1983 FORD MUSTANG BOARD 1















































































VEHICLE- 06- FORD MUSTANG

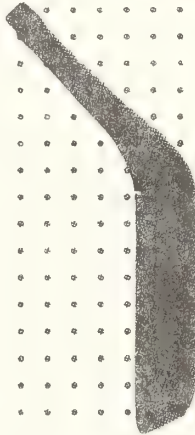
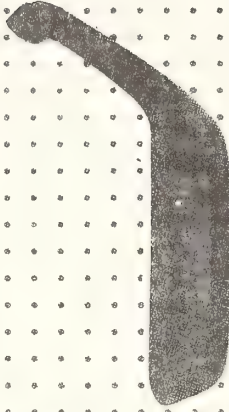
DESCRIPTION	ITEM NO.	QTY	MATERIAL	WEIGHT	MATERIAL	LABOR	BURDEN	TOTAL	WHOLESALE PRICE	CONSUMER PRICE	TOOLING
ASM - ARM REST	183201	1	21ASSY	1.4432	1.7734			1.7734	2.5484	2.8949	80.0
REINFORCEMENT - ARM REST	183204	1	1ABS	.5500	.9049			.9049	1.3003	1.4771	35.0
COVER - ARM REST	183205	1	1PVC	.8932	.6432			.6432	.9243	1.0500	
ASSEMBLY COST					.2253			.2253	.3238	.3678	45.0



VEHICLE- 06- FORD MUSTANG

DESCRIPTION	ITEM	NO.	QTY	MTRL	WEIGHT	VARIABLE MANUFACTURING COST				WHOLESALE CONSUMER TOOLING			
						MATERIAL	LABOR	BURDEN	TOTAL	PRICE	PRICE	PRICE	PRICE
ASH - SUNVISOR	83220	1	2	ASSY	.8476	2.4001			2.4001	3.4487	3.9178	207.0	
HINGE ROD	83221	1	1	CRS	.1721	.6625			.6625	.9520	1.0815	27.0	
HINGE BRACKET	83222	1	1	ZN	.0616	.4521			.4521	.6497	.7381	73.0	
HINGE REINFORCEMENT - VISOR	83223	1	1	G/ST	.1518	.1058			.1058	.1520	.1727	20.0	
WASHER	83226	1	2	STL	.0022	.0300			.0300	.0432	.0490		
SPRING	83227	1	1	STMR	.0055	.0450			.0450	.0647	.0735		
STIFFENER - SUNVISOR	83229	1	1	F/BD	.2215	.1012			.1012	.1454	.1652	15.0	
COVER - SUNVISOR	83230	1	1	VAR	.1001	.0635			.0635	.0912	.1036	.5	
PADDING - SUNVISOR	83231	1	2	PLYF	.0726	.1322			.1322	.1900	.2158	15.0	
OUTER BEAD COVER - SUNVISOR	83232	1	1	PLAS	.0213	.0359			.0359	.0516	.0586	20.0	
STAPLE	83235	1	6	STL	.0036	.0060			.0060	.0084	.0096		
CLIP END	83236	1	1	SSTL	.0018	.0200			.0200	.0287	.0326		
STORAGE STRAP - SUNVISOR	83248	1	1	VAR	.0317	.0797			.0797	.1145	.1301	5.5	
CLIP END - OUTER	83249	1	1	SSTL	.0018	.0200			.0200	.0287	.0326		
ASSEMBLY COST						.6462			.6462	.9286	1.0549	31.0	

# 1983 FORD MUSTANG BOARD



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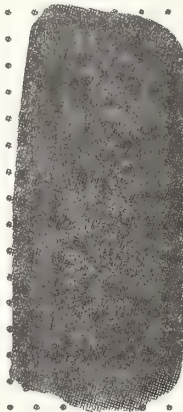
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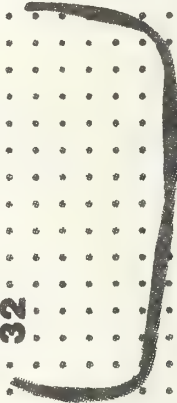
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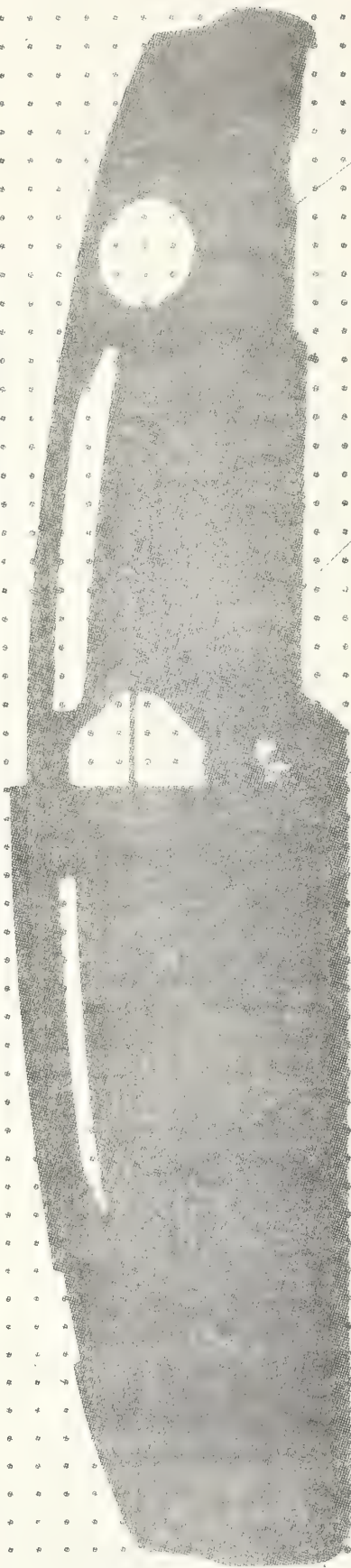
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VEHICLE- 06- FORD MUSTANG

DESCRIPTION	ITEM	NO.	QTY	MATERIAL	WEIGHT	MATERIAL	LABOR	BURDEN	VARIABLE MANUFACTURING COST			TOTAL			WHOLESALE CONSUMER		
ASM - INSTRUMENT PANEL PAD	183301	1	1	ASSY	4.5250	12.7837						12.7837	18.3699	20.8682	361.0		
FOAM - INST. PNL. PAD	183302	1	1	PLYF	.9953	1.3063						1.3063	1.8772	2.1325			
REINFORCEMENT - INST. PNL. PAD	183303	1	1	ABS	2.6504	8.9939						8.9939	12.9242	14.6819	270.0		
COVER - INST. PNL. PAD	183304	1	1	PLAS	.8409	1.4428						1.4428	2.0733	2.3553	27.0		
U-NUT	183307	1	1	STL	.0384	.1200						.1200	.1722	.1956			
ASSEMBLY COST						.9207						.9207	1.3230	1.5029	64.0		



**1983  
FORD MUSTANG BOARD 3**



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VEHICLE- 06- FORD MUSTANG

DESCRIPTION	ITEM NO.	QTY	MATL	WEIGHT	VARIABLE MANUFACTURING COST			WHOLESALE CONSUMER		
					MATERIAL	LABOR	BURDEN	PRICE	PRICE	PRICE
ASM - SEAT BACK PAD (UPPER 6")	83401	1	21	ASSY	.7411	.8236		.8236	1.1835	1.3445
MAIN PAD	83402	1	1	FMRB	.5317	.4511		.4511	.6482	.7364
PAD CROWN SUPPORT	83404	1	1	FMRB	.1430	.3535		.3535	.5080	.5774
BORDER WIRE	83405	1	1	STWR	.0664	.0190		.0190	.0273	.0310
ASSEMBLY COST										

VEHICLE- 07- CHRYSLER FIFTH AVENUE

DESCRIPTION	ITEM NO.	QTY	MTRL	WEIGHT	VARIABLE MANUFACTURING COST			WHOLESALE/ CONSUMER TOOLING		
					MATERIAL	LABOR	BURDEN	TOTAL	PRICE	PRICE
CHRYSLER FIFTH AVENUE		1		13.1048	24.8449	.5356	.5891	25.9696	37.3176	42.3921
ASM - GLOVE COMPARTMENT LATCH	183101	1	ASSY	.2925	.2972	.5356	.5891	1.4219	2.0434	2.3210
ASM - WINDOW REGULATOR HANDLE	183120	2	ASSY	.3960	2.3660			2.3660	3.4000	3.8624
ASM - DOOR HANDLE	183151	2	ASSY	1.1052	3.8196			3.8196	5.4886	6.2348
ASM - ARM REST	183201	2	ASSY	.8878	1.7314			1.7314	2.4882	2.8266
ASM - SUNVISOR	183220	2	ASSY	2.2842	4.3274			4.3274	6.2176	7.0632
ASM - PASSENGER ASSIST HANDLE	183260	1	ASSY	.3380	1.6956			1.6956	2.4366	2.7680
ASM - INSTRUMENT PANEL PAD	183301	1	ASSY	5.9603	8.6417			8.6417	12.4180	14.1067
ASM - SEAT BACK PAD (UPPER 6")	183401	2	ASSY	1.8408	1.9660			1.9660	2.8252	3.2094
ASSEMBLY COST										

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# FORD MUSTANG BOARD 4



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VEHICLE- 07- CHRYSLER FIFTH AVENUE

DESCRIPTION	ITEM NO.	QTY	MATL	WEIGHT	VARIABLE MANUFACTURING COST			WHOLESALE CONSUMER TOOLING		
					MATERIAL	LABOR	BURDEN	TOTAL	PRICE	PRICE
ASM - GLOVE COMPARTMENT LATCH	83101	1	ASSY	.2925	.2972	.5356	.5891	1.4219	2.0434	2.3210
HOUSING - GLOVE BOX LOCK	83102	1	ZN	.1056	.0589	.0254	.0550	.1393	.2002	.2274
RELEASE KNOB	83103	1	ZN	.0396	.0274	.1261	.1672	.3207	.4608	.5235
SPRING - RELEASE BUTTON	83104	1	STL	.0007	.0150			.0150	.0216	.0245
SPRING - RELEASE TRIGGER	83106	1	STL	.0008	.0170			.0170	.0244	.0277
RETAINER PIN	83108	1	STL	.0074	.0100			.0100	.0144	.0164
KNOB - LOCK HOUSING	83109	1	ZN	.0403	.0222	.0116	.0265	.0603	.0867	.0985
LATCH - GLOVE BOX	83112	1	HRS	.0077	.0071	.0047	.0166	.0284	.0408	.0463
TUMBLER - GLOVE BOX LOCK	83113	1	HRS	.0028	.0076	.0068	.0232	.0376	.0540	.0612
TUMBLER SPRING	83114	1	SPST	.0004	.0080			.0080	.0116	.0132
STRIKER - GLOVE BOX LOCK	83115	1	HRS	.0765	.0418	.0088	.0320	.0826	.1187	.1348
WASHER	83119	1	STL	.0019	.0050			.0050	.0072	.0082
ROLL PIN	83119A	1	AL	.0010	.0010			.0010	.0014	.0016
MOUNTING SCREW	83119B	2	STL	.0078	.0700			.0700	.1006	.1142
ASSEMBLY COST					.0062	.3522	.2686	.6270	.9010	1.0235
										10.5



VEHICLE- 07-      CHRYSLER FIFTH AVENUE

DESCRIPTION	ITEM NO.	QTY	MATERIAL	WEIGHT	VARIABLE MANUFACTURING COST			WHOLESALE CONSUMER TOOLING		
						LABOR	BURDEN	TOTAL	PRICE	PRICE
ASM - WINDOW REGULATOR HANDLE	183120	1	21ASSY	.1980	1.1830			1.1830	1.7000	1.9312
HANDLE - WINDOW REGULATOR	183121	1	11ZN	.1482	.8511			.8511	1.2230	1.3893
ASM - WINDOW REGULATOR KNOB	183122	1	11ASSY	.0415	.2388			.2388	.3432	.3899
SPACER - WINDOW REGULATOR	183129	1	11PLYP	.0083	.0243			.0243	.0349	.0396
ASSEMBLY COST					.0688			.0688	.0989	.1124
										15.0


VEHICLE- 07- CHRYSLER FIFTH AVENUE

DESCRIPTION	ITEM NO.	QTY	MATL	WEIGHT	VARIABLE MANUFACTURING COST				TOTAL				WHOLESALE CONSUMER TOOLING			
					MATERIAL	LABOR	BURDEN						PRICE		PRICE	0005
ASM - WINDOW REGULATOR KNOB	183122	1	21ASSY	.0415	.2388				.2388			.3432			.3899	155.0
PLASTIC (MAT'L. ONLY)	183122A	1	1PLAS	.0323	.0230				.0230			.0331			.0376	
GROMMET - WINDOW REG. KNOB	183124	1	1PVC	.0022	.0067				.0067			.0096			.0109	25.0
SHAFT - WINDOW REG. KNOB	183125	1	1CRS	.0061	.0095				.0095			.0137			.0156	10.0
CAP - WINDOW REG. KNOB	183126	1	1AL	.0009	.0158				.0158			.0227			.0258	15.0
ASSEMBLY COST					.1838				.1838			.2641			.3000	105.0

VEHICLE- 07- CHRYSLER FIFTH AVENUE

DESCRIPTION	ITEM NO.	QTY	MATL	WEIGHT	VARIABLE MATERIAL	MANUFACTURING LABOR	COST BURDEN	TOTAL	WHOLESALE PRICE	CONSUMER PRICE	TOOLING 000S
ASM - DOOR HANDLE	83151	2	ASSY	.5526	1.9098			1.9098	2.7443	3.1174	197.0
HANDLE - DOOR	83153	1	ZN	.2049	.8863			.8863	1.2736	1.4468	27.0
RETURN SPRING - DOOR HANDLE	83155	1	STWR	.0349	.0907			.0907	.1303	.1480	2.0
RUBBER BUMPER - DOOR HANDLE	83156	1	RUB	.0019	.0574			.0574	.0825	.0937	25.0
RETAINING PIN - DOOR HANDLE	83157	1	CRS	.0269	.0359			.0359	.0516	.0586	2.0
BRACKET (OUTER) - DOOR HANDLE	83160	1	CRS	.1746	.3419			.3419	.4913	.5581	40.0
BRACKET (INNER) - DOOR HANDLE	83161	1	CRS	.0890	.1795			.1795	.2579	.2930	70.0
M6 BOLT	83162	1	STL	.0193	.0400			.0400	.0575	.0653	
PAD - DOOR HANDLE	83163	1	PLYF	.0011	.0605			.0605	.0869	.0987	15.0
ASSEMBLY COST					.2176			.2176	.3127	.3552	16.0

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VEHICLE- 07- CHRYSLER FIFTH AVENUE

DESCRIPTION	ITEM NO.	QTY	MATERIAL	WEIGHT	VARIABLE MANUFACTURING COST			WHOLESALE CONSUMER TOOLING		
					MATERIAL	LABOR	BURDEN	TOTAL	PRICE	PRICE
ASM - ARM REST	183201	2	ASSY	.4439	.8657			.8657	1.2441	1.4133
FOAM PAD	183202	1	URE	.0918	.0873			.0873	.1255	.1426
REINFORCEMENT - ARM REST	183204	1	PVC	.1746	.3039			.3039	.4367	.4961
COVER - ARM REST	183205	1	PVC	.1775	.3405			.3405	.4893	.5558
ASSEMBLY COST					.1340			.1340	.1926	.2188
										25.0

VEHICLE- 07- CHRYSLER FIFTH AVENUE

DESCRIPTION	ITEM NO.	QTY	MATERIAL	WEIGHT	VARIABLE MANUFACTURING COST				WHOLESALE/CONSUMER/TOOLING		
					MATERIAL	LABOR	BURDEN	TOTAL	PRICE	PRICE	PRICE
ASM - SUNVISOR	83220	2	ASSY	1.1421	2.1637			2.1637	3.1088	3.5316	173.0
HINGE ROD - SUNVISOR	83221	1	CRS	.2125	.2884			.2884	.4144	.4708	3.0
HINGE BRACKET - SUNVISOR	83222	1	ZN	.1575	.1454			.1454	.2089	.2373	65.0
HINGE REINFORCEMENT - SUNVISOR	83223	1	G/ST	.2736	.2025			.2025	.2910	.3306	25.0
WASHER	83226	1	STL	.0014	.0150			.0150	.0216	.0245	
SPRING	83227	1	STWR	.0070	.0450			.0450	.0647	.0735	
STIFFENER - SUNVISOR	83229	1	F/BD	.2581	.0851			.0851	.1223	.1389	10.0
COVER - SUNVISOR	83230	1	CLO	.0671	.3566			.3566	.5124	.5821	10.0
PAD - SUNVISOR	83231	1	PAF	.1353	.0437			.0437	.0628	.0713	10.0
BEAD SEAM	83232	1	PLAS	.0231	.0394			.0394	.0566	.0643	20.0
STAPLE	83235	8	STL	.0040	.0080			.0080	.0112	.0128	
CLIP END	83236	1	STL	.0017	.0200			.0200	.0287	.0326	
CLIP END - OUTER	83249	1	STL	.0008	.0200			.0200	.0287	.0326	
ASSEMBLY COST					.8946			.8946	1.2855	1.4603	30.0

VEHICLE- 07- CHRYSLER FIFTH AVENUE

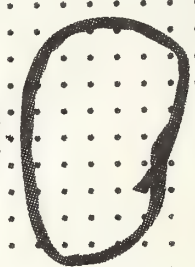
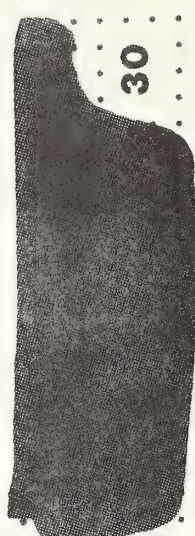
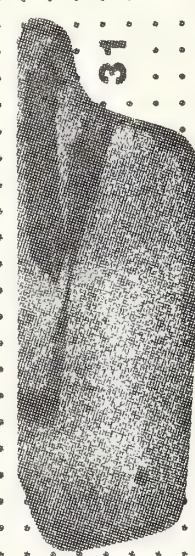
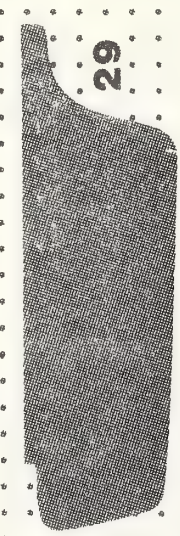
DESCRIPTION	ITEM NO.	QTY	MATERIAL	WEIGHT	VARIABLE MANUFACTURING COST			WHOLESALE CONSUMER TOOLING		
					MATERIAL	LABOR	BURDEN	TOTAL	PRICE	PRICE
ASM - PASSENGER ASSIST HANDLE	183260	1	ASSY	.3380	1.6956			1.6956	2.4366	2.7680
HANDLE	183261	1	SPST	.0876	.1523			.1523	.2189	.2487
COVER	183262	1	VNL	.0594	.0690			.0690	.0992	.1127
REINFORCEMENT	183263	1	RUB	.1166	.1781			.1781	.2559	.2907
PADDING	183265	1	RUB	.0132	.0903			.0903	.1298	.1475
RETAINER	183266	2	PVC	.0258	.5062			.5062	.7274	.8264
GUIDE PIN	183267	2	CRS	.0184	.0208			.0208	.0298	.0338
SCREW	183268	2	STL	.0154	.0040			.0040	.0058	.0066
PUSH NUT	183269	2	STL	.0016	.0700			.0700	.1006	.1142
ASSEMBLY COST					.6049			.6049	.8692	.9874



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VEHICLE- 07- CHRYSLER FIFTH AVENUE

DESCRIPTION	ITEM NO.	QTY	MATERIAL	WEIGHT	MATERIAL	VARIABLE MANUFACTURING COST			WHOLESALE CONSUMER TOOLING		
						BURDEN	TOTAL	PRICE	PRICE	PRICE	000S
ASM - INSTRUMENT PANEL PAD	183301	1	1:ASSY	5.9603	8.6417		8.6417	12.4180	14.1067	426.0	
FOAM PAD - INSTRUMENT PANEL	183302	1	1:PLYF	.5842	.8050		.8050	1.1568	1.3141		
REINFORCEMENT - INSTRUMENT PANEL	183303	1	1:CKRS	3.3434	4.5769		4.5769	6.5770	7.4715	250.0	
COVER - INSTRUMENT PANEL PAD	183304	1	1:FLAS	1.3961	1.7978		1.7978	2.5834	2.9347	27.0	
NUT - M4	183307	1	4:AL	.0076	.0200		.0200	.0288	.0328		
ASM - REINFORCEMENT PANEL	183310	1	1:ASSY	.5670	.3893		.3893	.5594	.6355	85.0	
STUD - M4 X 5	183316	1	4:STL	.0620	.1320		.1320	.1896	.2152		
ASSEMBLY COST					.9207		.9207	1.3230	1.5029	64.0	

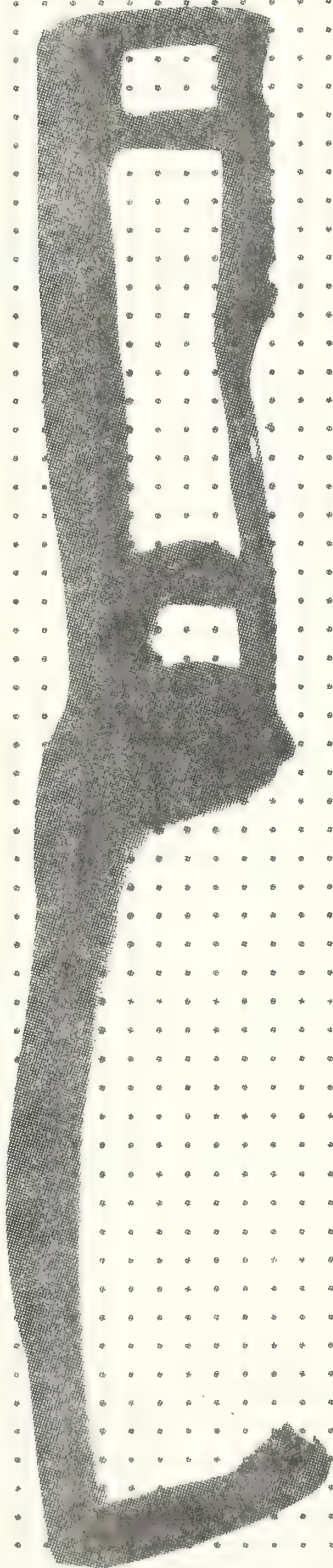
VEHICLE- 07- CHRYSLER FIFTH AVENUE

DESCRIPTION	ITEM NO.	QTY	MATL	WEIGHT	VARIABLE MANUFACTURING COST				WHOLESALE CONSUMER TOOLING		
					MATERIAL	LABOR	BURDEN	TOTAL	PRICE	PRICE	PRICE
ASM - REINFORCEMENT PANEL	183310	1	ASSY	.5670	.3893			.3893	.5594	.6355	85.0
INSERT - REINF. SUPPORT	183308	1	CRS	.5670	.3551			.3551	.5103	.5797	75.0
ASSEMBLY COST					.0342			.0342	.0494	.0558	10.0

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VEHICLE- 07- CHRYSLER FIFTH AVENUE

DESCRIPTION	ITEM NO.	QTY	MATERIAL	WEIGHT	VARIABLE MANUFACTURING COST			WHOLESALE CONSUMER TOOLING		
					MATERIAL	LABOR	BURDEN	TOTAL	PRICE	PRICE
ASM - SEAT BACK PAD (UPPER 6")	183401	1	21ASSY	.9204	.9830			.9830	1.4126	1.6047
MAIN PAD	183402	1	11FMRB	.6006	.5095			.5095	.7322	.8318
PAD CROWN SUPPORT	183404	1	11FMRB	.2182	.4444			.4444	.6386	.7254
BORDER WIRE	183405	1	11STWR	.1016	.0291			.0291	.0418	.0475
ASSEMBLY COST										



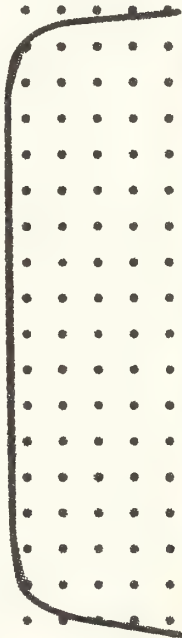
VEHICLE- 08- CHRYSLER E-CLASS

DESCRIPTION	ITEM NO.	QTY	MATERIAL	WEIGHT	VARIABLE MANUFACTURING COST				WHOLESALE- CONSUMER-TOOLING		
					MATERIAL	LABOR	BURDEN	TOTAL	PRICE	PRICE	000S
CHRYSLER E-CLASS				11.4380	26.9162	.5356	.5891	28.0409	40.2935	45.7729	1433.5
ASM - GLOVE COMPARTMENT LATCH	183101	1	1 ASSY	.3003	.2977	.5356	.5891	1.4224	2.0439	2.3219	322.5
ASM - WINDOW REGULATOR HANDLE	183120	2	2 ASSY	.3794	2.3174			2.3174	3.3302	3.7832	287.0
ASM - DOOR HANDLE	183151	2	2 ASSY	.3300	1.5124			1.5124	2.1732	2.4684	149.0
ASM - ARM REST	183201	2	2 ASSY	.8128	1.4908			1.4908	2.1422	2.4334	115.0
ASM - SUNVISOR	183220	2	2 ASSY	1.7834	4.2462			4.2462	6.1008	6.9304	199.0
ASM - INSTRUMENT PANEL PAD	183301	1	1 ASSY	5.7813	14.6843			14.6843	21.1012	23.9710	361.0
ASM - SEAT BACK PAD (UPPER 6")	183401	2	2 ASSY	2.0508	2.3674			2.3674	3.4020	3.8646	
ASSEMBLY COST											

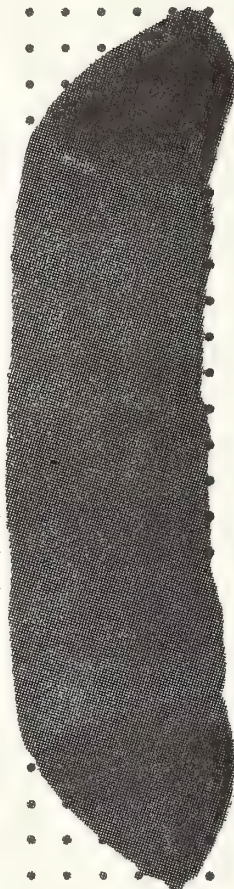
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CHRYSLER NEW YORKER 5th AVE. BOARD 4

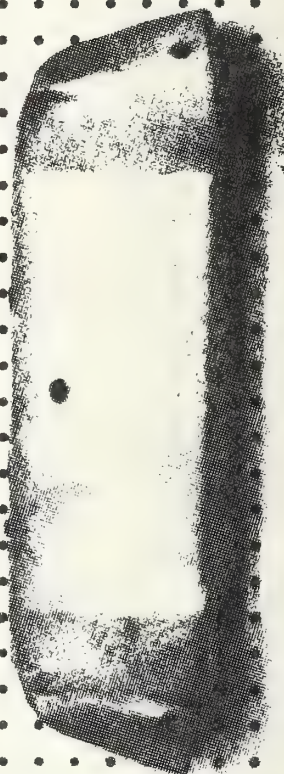
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VEHICLE- 08- CHRYSLER E-CLASS

DESCRIPTION	ITEM NO.	QTY	MATERIAL	WEIGHT	VARIABLE MANUFACTURING COST			WHOLESALE CONSUMER TOOLING		
					MATERIAL	LABOR	BURDEN	PRICE	PRICE	PRICE
ASM - GLOVE COMPARTMENT LATCH	183101	1	11ASSY	.3003	.2977	.5356	.5891	1.4224	2.0439	2.3249
HOUSING - GLOVE BOX LOCK	183102	1	11ZN	.1063	.0609	.0254	.0550	.1413	.2030	.2306
RELEASE KNOB	183103	1	11ZN	.0735	.0300	.1261	.1672	.3233	.4646	.5278
SPRING - RELEASE BUTTON	183104	1	11WIRE	.0020	.0150			.0150	.0216	.0245
SPRING - RELEASE TRIGGER	183106	1	11WIRE	.0008	.0170			.0170	.0244	.0277
KNOB - LOCK HOUSING	183109	1	11ZN	.0427	.0241	.0116	.0265	.0622	.0894	.1016
LATCH - GLOVE BOX	183112	1	11HRS	.0077	.0071	.0047	.0166	.0284	.0408	.0463
TUMBLER - GLOVE BOX LOCK	183113	1	41ERS	.0040	.0244	.0068	.0232	.0544	.0780	.0888
TUMBLER SPRING	183114	1	41WIRE	.0004	.0080			.0080	.0116	.0132
STRIKER - GLOVE BOX LOCK	183115	1	11HRS	.0510	.0290	.0088	.0320	.0698	.1003	.1139
WASHER	183119	1	11STL	.0019	.0050			.0050	.0072	.0082
ROLL PIN	183119A	1	11AL	.0010	.0010			.0010	.0014	.0016
MOUNTING SCREW	183119B	2	21STL	.0090	.0700			.0700	.1006	.1142
ASSEMBLY COST					.0062	.3522	.2686	.6270	.9010	1.0235

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VEHICLE- 08- CHRYSLER E-CLASS

DESCRIPTION	ITEM NO.	QTY	MATL	WEIGHT	VARIABLE MANUFACTURING COST				WHOLESALE/ CONSUMER/ TOOLING			
					MATERIAL	LABOR	BURDEN	TOTAL	PRICE	PRICE	PRICE	000S
ASM - WINDOW REGULATOR HANDLE	183120	1	21	ASSY	.1897	1.1587		1.1587	1.6651	1.8916	287.0	
HANDLE - WINDOW REGULATOR	183121	1	1	ZN	.1482	.8511		.8511	1.2230	1.3893	117.0	
ASM - WINDOW REGULATOR KNOB	183122	1	1	ASSY	.0415	.2388		.2388	.3432	.3899	155.0	
ASSEMBLY COST						.0688		.0688	.0989	.1124	15.0	



VEHICLE- 08- CHRYSLER E-CLASS

DESCRIPTION	ITEM	NO.	QTY	MATL	WEIGHT	VARIABLE MANUFACTURING COST			WHOLESALE CONSUMER TOOLING		
						MATERIAL	LABOR	BURDEN	PRICE	PRICE	PRICE
ASM - WINDOW REGULATOR KNOB	183122	1	2	ASSY	.0415	.2388			.2388	.3432	.3899
PLASTIC (MAT'L. ONLY)	183122A	1	1	PLAS	.0323	.0230			.0230	.0331	.0376
GROMMET - WINDOW REG. KNOB	183124	1	1	PVC	.0022	.0067			.0067	.0096	.0109
SHAFT - WINDOW REG. KNOB	183125	1	1	CRS	.0061	.0095			.0095	.0137	.0156
CAP - WINDOW REG. KNOB	183126	1	1	AL	.0009	.0158			.0158	.0227	.0258
ASSEMBLY COST						.1838			.1838	.2641	.3000

VEHICLE- 08- CHRYSLER E-CLASS

DESCRIPTION	ITEM NO.	QTY	MATERIAL	WEIGHT	MATERIAL	LABOR	BURDEN	TOTAL	WHOLESALE/CONSUMER	
									PRICE	PRICE
ASM - DOOR HANDLE	83151	2	ASSY	.1650	.7562			.7562	1.0866	1.2342
HOUSING - DOOR HANDLE	83152	1	PLY	.0772	.0851			.0851	.1223	.1389
HANDLE	83153	1	PLY	.0426	.0753			.0753	.1082	.1229
RETURN SPRING - DOOR HANDLE	83155	1	STW	.0059	.0881			.0881	.1266	.1438
RUBBER BUMPER	83156	1	RUB	.0005	.0374			.0374	.0537	.0610
RETAINING PIN - DOOR HANDLE	83157	1	PLY	.0033	.0415			.0415	.0526	.0677
PAWL - DOOR HANDLE	83164	2	PLY	.0034	.0810			.0810	.1164	.1322
PIN - LOCK - DOOR HANDLE	83165	1	PLY	.0013	.0251			.0251	.0361	.0410
LOCK - DOOR HANDLE	83167	1	PLY	.0308	.0442			.0442	.0635	.0721
ASSEMBLY COST					.2785			.2785	.4002	.4546

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VEHICLE- 08- CHRYSLER E-CLASS

DESCRIPTION	ITEM NO.	QTY	MATERIAL	WEIGHT	VARIABLE MANUFACTURING COST			WHOLESALE CONSUMER		
					MATERIAL	LABOR	BURDEN	TOTAL	PRICE	PRICE
ASM - ARM REST	183201	1	21ASSY	.4064	.7454			.7454	1.0711	1.2167
FOAM PAD	183202	1	11URE	.0776	.0703			.0703	.1010	.1147
REINFORCEMENT - ARM REST	183204	1	11PVC	.1205	.1772			.1772	.2546	.2892
COVER - ARM REST	183205	1	11PVC	.2083	.3639			.3639	.5229	.5940
ASSEMBLY COST					.1340			.1340	.1926	.2188
										25.0

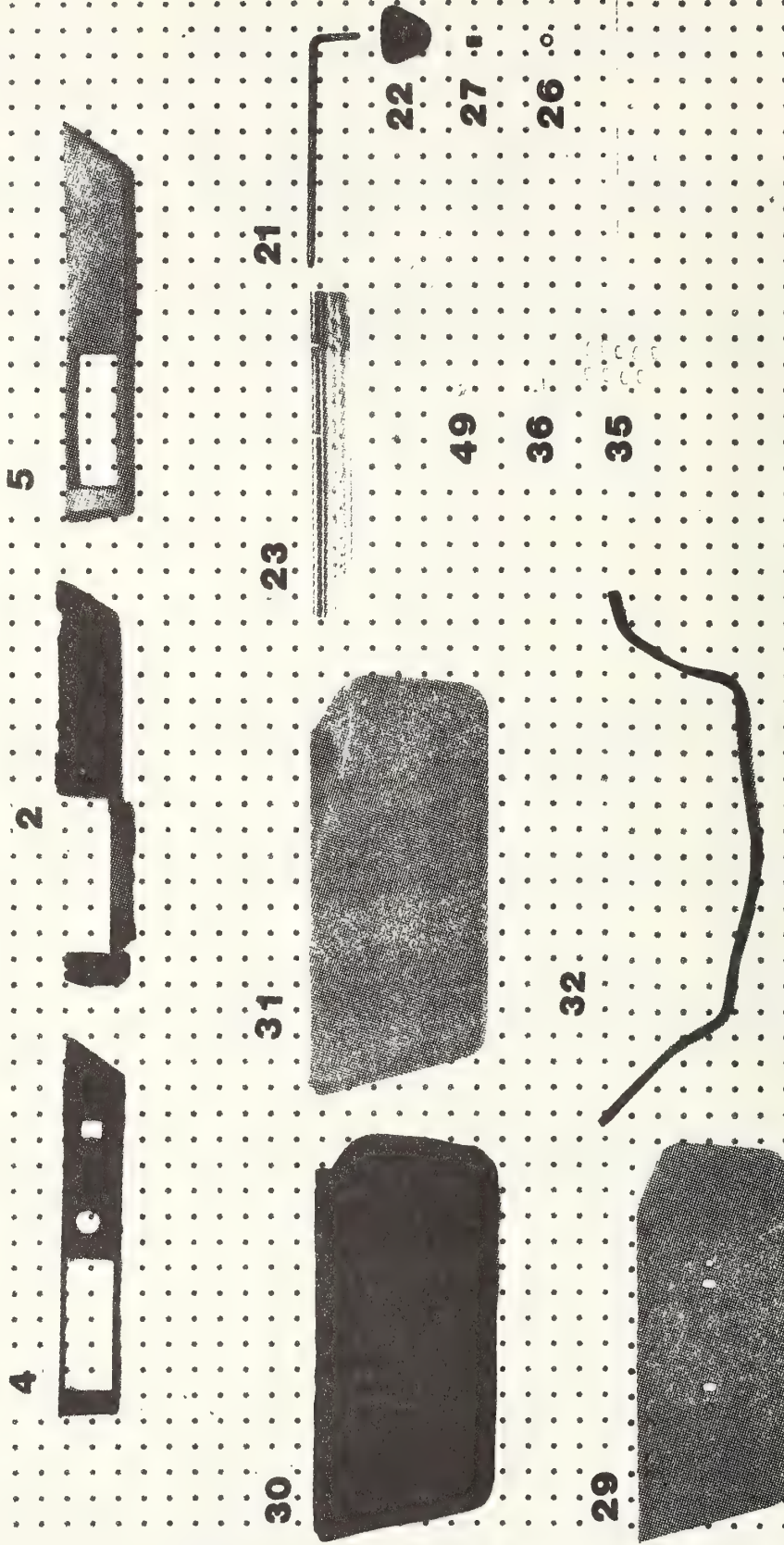


VEHICLE- 08- CHRYSLER E-CLASS

DESCRIPTION	ITEM NO.	QTY	MATL	WEIGHT	VARIABLE MATERIAL	MANUFACTURING LABOR	BURDEN	TOTAL	WHOLESALE PRICE	CONSUMER PRICE	TOOLING
ASM - SUNVISOR	83220	1	CLASSY	.8917	2.1231			2.1231	3.0504	3.4652	199.0
HINGE ROD - VISOR	83221	1	CRS	.1708	.3305			.3305	.4749	.5395	21.0
HINGE BRACKET - VISOR	83222	1	ZN	.1005	.1193			.1193	.1714	.1947	65.0
HINGE REINFORCEMENT - VISOR	83223	1	G/STL	.1708	.1241			.1241	.1783	.2025	20.0
WASHER	83226	1	STL	.0013	.0150			.0150	.0216	.0245	
SPRING	83227	1	STUR	.0057	.0450			.0450	.0647	.0735	
STIFFENER - SUNVISOR	83229	1	F/BD	.2319	.1070			.1070	.1538	.1747	15.0
COVER - SUNVISOR	83230	1	RFB	.0393	.3460			.3460	.4972	.5648	12.0
PAD - FRICTION COATED - VISOR	83231	1	PAP	.1437	.0568			.0568	.0816	.0927	10.0
OUTER BEAD COVER - VISOR	83232	1	PLAS	.0191	.0358			.0358	.0514	.0584	20.0
STAPLE	83235	9	STL	.0054	.0090			.0090	.0126	.0144	
CLIP END	83236	1	SSTL	.0018	.0200			.0200	.0287	.0326	
CLIP END - OUTER	83249	1	SSTL	.0014	.0200			.0200	.0287	.0326	
ASSEMBLY COST					.8946			.8946	1.2855	1.4603	36.0

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VEHICLE- 08- CHRYSLER E-CLASS

DESCRIPTION	ITEM NO.	QTY	MATL	WEIGHT	VARIABLE MANUFACTURING COST	WHOLESALE PRICE	CONSUMER PRICE
ASM - INSTRUMENT PANEL PAD	183301	1	ASSY	5.7813	14.6843	21.1012	23.9710
FOAM - INST. PNL. PAD	183302	1	PLYF	1.8737	2.5822	3.7106	4.2152
REINFORCEMENT - INST. PNL. PAD	183303	1	ABS	2.2673	8.6557	12.4382	14.1298
COVER - INST. PNL. PAD	183304	1	PLAS	1.5845	2.3637	3.3966	3.8585
U-NUT	183307	6	STL	.0558	.1620	.2328	.2646
ASSEMBLY COST					.9207	1.3230	1.5029

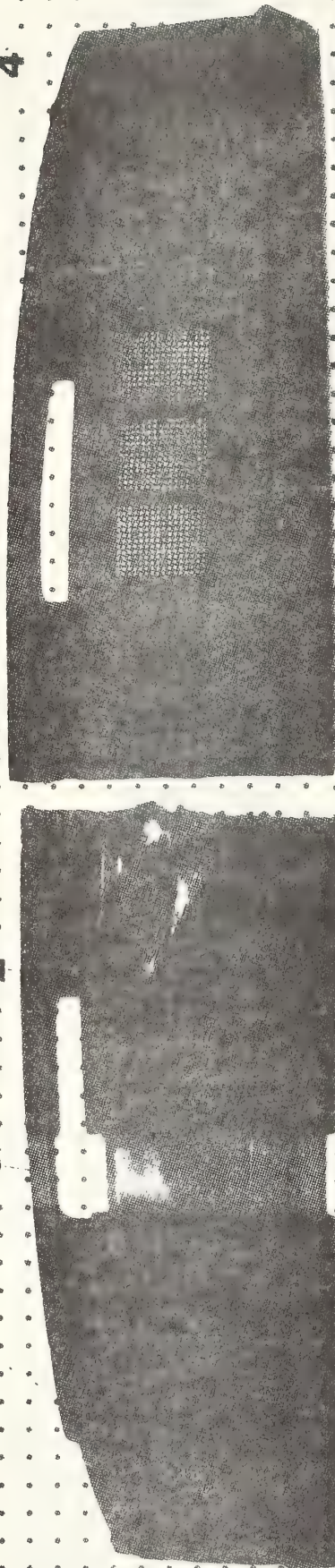


**1983**  
**CHRYSLER E-CLASS BOARD 3**

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VEHICLE- 08- CHRYSLER E-CLASS

DESCRIPTION	ITEM NO.	QTY	MATERIAL	WEIGHT	VARIABLE MANUFACTURING COST			WHOLESALE			CONSUMER		
					MATERIAL	LABOR	BURDEN	TOTAL	PRICE	PRICE	PRICE	PRICE	PRICE
ASM - SEAT BACK PAD (UPPER 6")	183401	1	21ASSY	1.0254	1.1837			1.1837	1.7010			1.9323	
MAIN PAD	183402	1	11FMRB	.6877	.5835			.5835	.8385			.9525	
PAD CROWN SUPPORT	183404	1	11FMRB	.2306	.5696			.5696	.8185			.9298	
BORDER WIRE	183405	1	11STWR	.1071	.0306			.0306	.0440			.0500	
ASSEMBLY COST													

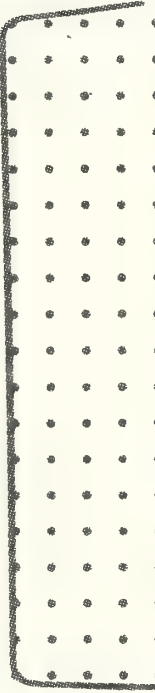
VEHICLE- 09- CHRYSLER/PLYMOUTH RELIANT

DESCRIPTION	ITEM NO.	QTY	MATERIAL	WEIGHT	VARIABLE MANUFACTURING COST			WHOLESALE CONSUMER TOOLING		
					MATERIAL	LABOR	BURDEN	TOTAL	PRICE	PRICE
CHRYSLER/PLYMOUTH RELIANT										
ASM - GLOVE COMPARTMENT LATCH	183101	1	1 ASSY	13.4072	30.7910	.5356	.5891	31.9157	45.8617	52.0983
ASM - WINDOW REGULATOR HANDLE	183120	2	1 ASSY	.3794	2.3174	.5356	.5891	1.4224	2.0439	3.3219
ASM - DOOR HANDLE	183151	2	1 ASSY	.6508	3.1322			2.3174	3.3302	3.7832
ASM - ARM REST	183201	2	1 ASSY	2.3658	3.7322			3.1322	4.5008	5.1126
ASM - SUNVISOR	183220	2	1 ASSY	1.8788	4.2598			3.7322	5.3634	6.0926
ASM - INSTRUMENT PANEL PAD	183301	1	1 ASSY	5.7813	14.6843			4.2598	6.1202	6.9524
ASM - SEAT BACK PAD (UPPER 6")	183401	2	1 ASSY	2.0508	2.3674			14.6843	21.1012	23.9710
ASSEMBLY COST								2.3674	3.4020	3.8646

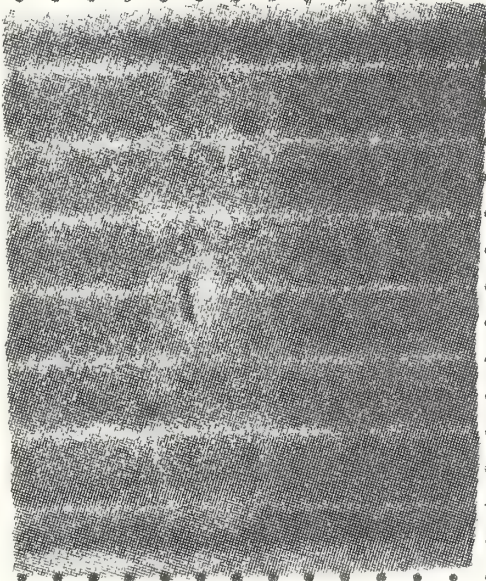
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## VEHICLE- 09- CHRYSLER/PLYMOUTH RELIANT

DESCRIPTION	ITEM NO.	QTY	MATERIAL	WEIGHT	VARIABLE MANUFACTURING COST				WHOLESALE CONSUMER TOOLING			
					MATERIAL	LABOR	BURDEN	TOTAL	PRICE	PRICE	PRICE	PRICE
ASM - GLOVE COMPARTMENT LATCH	183101	1	ASSY	.3003	.2977	.5356	.5891	1.4224	2.0439	2.3219	322.5	
HOUSING - GLOVE BOX LOCK	183102	1	ZN	.1063	.0609	.0254	.0550	.1413	.2030	.2306	70.0	
RELEASE KNOB	183103	1	ZN	.0735	.0300	.1261	.1672	.3233	.4646	.5278	67.0	
SPRING - RELEASE BUTTON	183104	1	WIRE	.0020	.0150			.0150	.0216	.0245		
SPRING - RELEASE TRIGGER	183106	1	WIRE	.0008	.0170			.0170	.0244	.0277		
KNOB - LOCK HOUSING	183109	1	ZN	.0427	.0241	.0116	.0265	.0622	.0894	.1016	60.0	
LATCH - GLOVE BOX	183112	1	HRS	.0077	.0071	.0047	.0166	.0284	.0408	.0463	25.0	
TUMBLER - GLOVE BOX LOCK	183113	1	HRS	.0040	.0244	.0068	.0232	.0544	.0780	.0888	50.0	
TUMBLER SPRING	183114	1	WIRE	.0004	.0080			.0080	.0116	.0132		
STRIKER - GLOVE BOX LOCK	183115	1	HRS	.0510	.0290	.0088	.0320	.0698	.1003	.1139	40.0	
WASHER	183119	1	STL	.0019	.0050			.0050	.0072	.0082		
ROLL PIN	183119A	1	AL	.0010	.0010			.0010	.0014	.0016		
MOUNTING SCREW	183119B	2	STL	.0090	.0700			.0700	.1006	.1142		
ASSEMBLY COST					.0062	.3522	.2686	.6270	.9010	1.0235	10.5	



DESCRIPTION	ITEM NO.	QTY	MATERIAL	WEIGHT	VARIABLE MANUFACTURING COST			WHOLESALE CONSUMER TOOLING		
					MATERIAL	LABOR	BURDEN	TOTAL	PRICE	PRICE
ASM - WINDOW REGULATOR HANDLE	183120	1	21 ASSY	.1897	1.1587			1.1587	1.6651	1.8916
HANDLE - WINDOW REGULATOR	183121	1	11 ZN	.1482	.8511			.8511	1.2230	1.3893
ASM - WINDOW REGULATOR KNOB	183122	1	11 ASSY	.0415	.2388			.2388	.3432	.3899
ASSEMBLY COST					.0688			.0688	.0989	.1124

VEHICLE- 09- CHRYSLER/PLYMOUTH RELIANT

DESCRIPTION	ITEM NO.	QTY	MATL	WEIGHT	VARIABLE MANUFACTURING COST			WHOLESALE			CONSUMER	
					MATERIAL	LABOR	BURDEN	TOTAL	PRICE	PRICE	PRICE	000S
ASM - WINDOW REGULATOR KNOB	183122	1	21ASSY	.0415	.2388			.2388	.3432		.3899	155.0
PLASTIC (MAT'L. ONLY)	183122A	1	PLAS	.0323	.0230			.0230	.0331		.0376	
GROMMET - WINDOW REG. KNOB	183124	1	PVC	.0022	.0067			.0067	.0096		.0109	25.0
SHAFT - WINDOW REG. KNOB	183125	1	CRS	.0061	.0095			.0095	.0137		.0156	10.0
CAP - WINDOW REG. KNOB	183126	1	AL	.0009	.0158			.0158	.0227		.0258	15.0
ASSEMBLY COST					.1838			.1838	.2641		.3000	105.0

DESCRIPTION	ITEM	QTY	MATERIAL	WEIGHT	VARIABLE MANUFACTURING COST			WHOLESALE			CONSUMER		
					MATERIAL	LABOR	BURDEN	TOTAL	PRICE		PRICE		TOOLING
ASM - DOOR HANDLE	183151	1	2:ASSY	.3254	1.5661			1.5661	2.2504		2.5563		246.0
HOUSING - DOOR HANDLE	183152	1	1:PLY	.0772	.0851			.0851	.1223		.1389		10.0
HANDLE	183153	1	1:ZN	.2030	.8852			.8852	1.2720		1.4450		117.0
RETURN SPRING - DOOR HANDLE	183155	1	1:STWR	.0059	.0881			.0881	.1266		.1438		2.0
RUBBER BUMPER	183156	1	1:RUB	.0005	.0374			.0374	.0537		.0610		15.0
RETAINING PIN - DOOR HANDLE	183157	1	1:FLYP	.0033	.0415			.0415	.0596		.0677		20.0
PAWL - DOOR HANDLE	183164	2	2:FLYP	.0034	.0810			.0810	.1164		.1322		30.0
PIN - LOCK - DOOR HANDLE	183165	1	1:FLYP	.0013	.0251			.0251	.0361		.0410		20.0
LOCK - DOOR HANDLE	183167	1	1:FLYP	.0308	.0442			.0442	.0635		.0721		20.0
ASSEMBLY COST					.2785			.2785	.4002		.4546		12.0

# 1983 PLYMOUTH RELIANT BOARD 1

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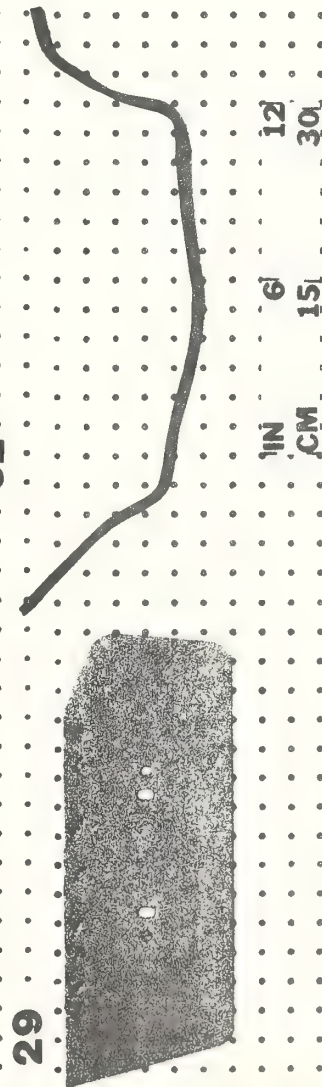
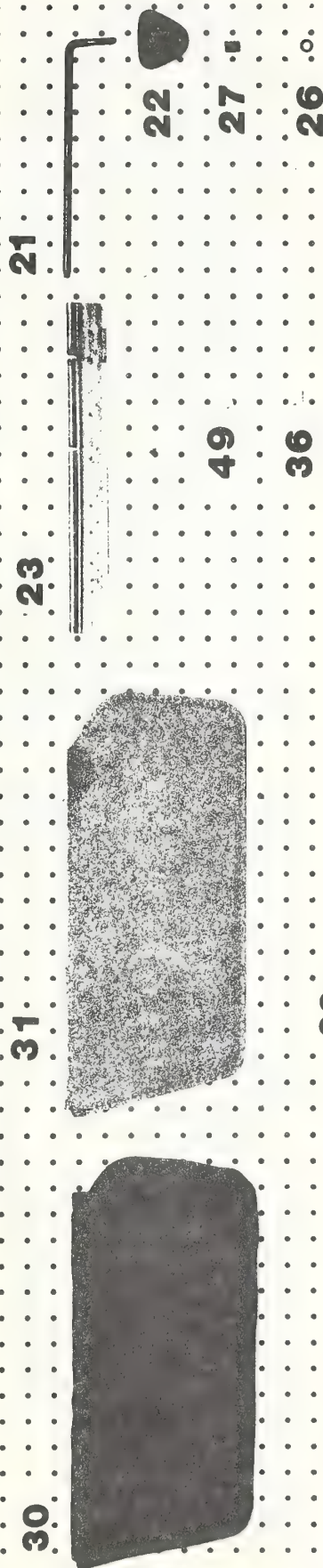
VEHICLE- 09- CHRYSLER/PLYMOUTH RELIANT

DESCRIPTION	ITEM NO.	QTY	MATERIAL	WEIGHT	VARIABLE MANUFACTURING COST			WHOLESALE/ CONSUMER TOOLING		
					MATERIAL	LABOR	BURDEN	TOTAL	PRICE	PRICE
ASM - ARM REST	183201	1	21ASSY	1.1829	1.8661			1.8661	2.6817	3.0463
REINFORCEMENT - ARM REST	183204	1	1PVC	.5296	.6349			.6349	.9124	1.0365
COVER - ARM REST	183205	1	1PVC	.6441	.6935			.6935	.9966	1.1321
TRIM PLATE - ARM REST	183211	1	11ZN	.0092	.4858			.4858	.6981	.7930
ASSEMBLY COST					.0519			.0519	.0746	.0847

VEHICLE- 09- CHRYSLER/PLYMOUTH RELIANT

DESCRIPTION	ITEM NO.	QTY	MATL	WEIGHT	MATERIAL	LABOR	BURDEN	TOTAL	PRICE	WHOLESALE	CONSUMER	TOOLING
ASM - SUNVISOR	83220	1	21ASSY	.9394	2.1299			2.1299	3.0601		3.4762	199.0
HINGE ROD - VISOR	83221	1	11CRS	.1708	.3305			.3305	.4749		.5395	21.0
HINGE BRACKET - VISOR	83222	1	11ZN	.1005	.1175			.1175	.1688		.1918	65.0
HINGE REINFORCEMENT - VISOR	83223	1	11G/ST	.1708	.1241			.1241	.1783		.2025	20.0
WASHER	83226	1	11STL	.0013	.0150			.0150	.0216		.0245	
SPRING	83227	1	11STWR	.0057	.0450			.0450	.0647		.0735	
STIFFENER - SUNVISOR	83229	1	11F/BD	.2772	.1128			.1128	.1621		.1841	15.0
COVER - SUNVISOR	83230	1	11RFB	.0393	.3460			.3460	.4972		.5648	12.0
PAD - FRICTION COATED - VISOR	83231	1	11PAP	.1421	.0564			.0564	.0810		.0920	10.0
OUTER BEAD COVER - VISOR	83232	1	11PLAS	.0231	.0390			.0390	.0560		.0636	20.0
STAPLE	83235	9	11STL	.0054	.0090			.0090	.0126		.0144	
CLIP END	83236	1	11STL	.0018	.0200			.0200	.0287		.0326	
CLIP END - OUTER	83249	1	11STL	.0014	.0200			.0200	.0287		.0326	
ASSEMBLY COST					.8946			.8946	1.2855		1.4603	36.0

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VEHICLE- 09- CHRYSLER/PLYMOUTH RELIANT

DESCRIPTION	ITEM NO.	QTY	MATL	WEIGHT	MATERIAL	LABOR	BURDEN	TOTAL	WHOLESALE PRICE	CONSUMER PRICE	TOOLING
ASM - INSTRUMENT PANEL PAD	183301	1	ASSY	5.78131	14.6843			14.6843	21.1012	23.9710	361.0
FOAM - INST. FNL. PAD	183302	1	PLYF	1.8737	2.5822			2.5822	3.7106	4.2152	
REINFORCEMENT - INST. FNL. PAD	183303	1	ABS	2.2673	8.6557			8.6557	12.4382	14.1298	270.0
COVER - INST. FNL. PAD	183304	1	PLAS	1.5845	2.3637			2.3637	3.3966	3.8585	27.0
U-NUT	183307	6	STL	.0558	.1620			.1620	.2328	.2646	
ASSEMBLY COST					.9207			.9207	1.3230	1.5029	64.0



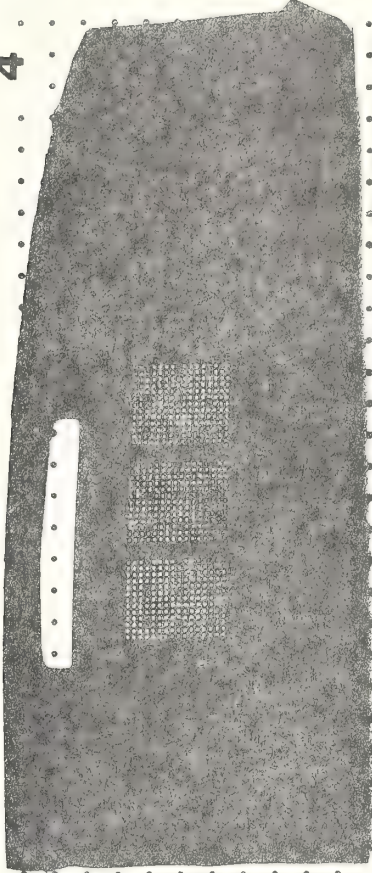
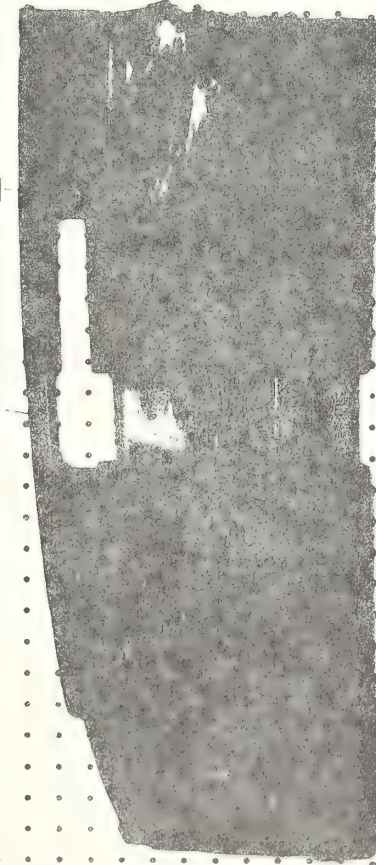
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VEHICLE- 09- CHRYSLER/PLYMOUTH RELIANT

DESCRIPTION	ITEM NO.	QTY	MATERIAL	WEIGHT	VARIABLE MANUFACTURING COST			TOTAL			WHOLESALE CONSUMER TOOLING		
					MATERIAL	LABOR	BURDEN	MATERIAL	LABOR	BURDEN	PRICE	PRICE	000S
ASM - SEAT BACK PAD (UPPER 6")	183401	1	21ASSY	1.0254	1.1837			1.1837			1.7010	1.9323	
MAIN PAD	183402	1	1FMRB	.6877	.5835			.5835			.8385	.9525	
PAD CROWN SUPPORT	183404	1	1FMRB	.2306	.5696			.5696			.8185	.9298	
BORDER WIRE	183405	1	1STWR	.1071	.0306			.0306			.0440	.0500	
ASSEMBLY COST													

VEHICLE- 10-      AMC/RENAULT ALLIANCE

DESCRIPTION	ITEM NO.	QTY	MATERIAL	WEIGHT	VARIABLE MANUFACTURING COST			TOTAL			WHOLESALE CONSUMER TOOLING		
					MATERIAL	LABOR	BURDEN	MATERIAL	LABOR	BURDEN	PRICE	PRICE	000S
AMC/RENAULT ALLIANCE		1		10.6432	25.5666	.0118	.0140	25.5924	36.7763	41.7781	1147.0		
LATCH - GLOVE COMPARTMENT	183101	1	ABS	.0085	.0094	.0118	.0140	.0352	.0506	.0575	28.0		
ASM - WINDOW REGULATOR HANDLE	183120	2	ASSY	.2374	.6904			.6904	.9924	1.1274	97.0		
ASM - DOOR HANDLE	183151	2	ASSY	.5164	2.3458			2.3458	3.3710	3.8296	138.0		
ASM - ARM REST	183201	2	ASSY	3.0258	5.5674			5.5674	8.0002	9.0882	201.0		
ASM - SUNVISORS (LEFT & RIGHT)	183220	1	ASSY	1.3274	2.9013			2.9013	4.1690	4.7361	322.0		
ASM - INSTRUMENT PANEL PAD	183301	1	ASSY	4.7593	13.2665			13.2665	19.0639	21.6565	361.0		
ASM - SEAT BACK PAD (UPPER 6")	183401	2	ASSY	.7684	.7858			.7858	1.1292	1.2828			
ASSEMBLY COST													

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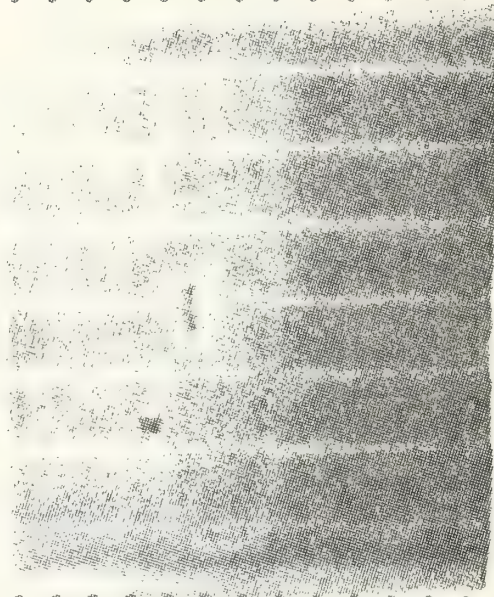


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COST SUMMARY OF FMVSS #201

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VEHICLE- 10- AMC/RENAULT ALLIANCE

DESCRIPTION	ITEM		QTY	MATERIAL	WEIGHT	VARIABLE MANUFACTURING COST			WHOLESALE CONSUMER TOOLING		
	NO.					MATERIAL	LABOR	BURDEN	TOTAL	PRICE	PRICE
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VEHICLE- 10- AMC/RENAULT ALLIANCE

DESCRIPTION	ITEM NO.	QTY	MATL	WEIGHT	VARIABLE MANUFACTURING COST			TOTAL			WHOLESALE CONSUMER TOOLING		
					MATERIAL	LABOR	BURDEN				PRICE	PRICE	PRICE
ASM - WINDOW REGULATOR HANDLE	183120	1	21ASSY	.1187	.3452			.3452		.4962	.5637		97.0
HANDLE - WINDOW REGULATOR	183121	1	11PVC	.0822	.0956			.0956		.1374	.1561		25.0
ASM - WINDOW REGULATOR KNOB	183122	1	11ASSY	.0242	.0744			.0744		.1070	.1216		55.0
WASHER - SPRING	183127	1	11STL	.0055	.0500			.0500		.0719	.0817		
SPACER - WINDOW REGULATOR	183128	1	11PVC	.0068	.0247			.0247		.0355	.0403		15.0
ASSEMBLY COST					.1005			.1005		.1444	.1640		2.0

VEHICLE- 10-      AMC/RENAULT ALLIANCE

DESCRIPTION	ITEM NO.	QTY	MATERIAL	WEIGHT	VARIABLE MANUFACTURING COST			TOTAL			WHOLESALE CONSUMER TOOLING		
					MATERIAL	LABOR	BURDEN	MATERIAL	LABOR	BURDEN	PRICE	PRICE	000S
ASM - WINDOW REGULATOR KNOB	183122	1	2:ASSY:	.0242	.0744			.0744			.1070	.1216	55.0
PLASTIC (MAT'L. ONLY)	183122A	1	1:PLAS:	.0162	.0100			.0100			.0144	.0164	
SHAFT - WINDOW REG. KNOB	183125	1	1:PLAS:	.0080	.0182			.0182			.0262	.0298	25.0
ASSEMBLY COST					.0462			.0462			.0664	.0754	30.0

VEHICLE- 10- AMC/RENAULT ALLIANCE

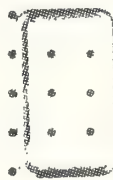
DESCRIPTION	ITEM NO.	QTY	MATL	WEIGHT	MATERIAL	LABOR	BURDEN	TOTAL	PRICE	WHOLESALE	CONSUMER	TOOLING
ASM - DOOR HANDLE	183151	1	21ASSY	.2582	1.1729			1.1729	1.6855	1.9148	138.0	
HOUSING - DOOR HANDLE	183152	1	1ABS	.0539	.0894			.0894	.1285	.1460	20.0	
HANDLE - DOOR	183153	1	11ZN	.1584	.6450			.6450	.9269	1.0530	79.0	
TRIM RING - HANDLE HOUSING	183154	1	1ABS	.0396	.3141			.3141	.4514	.5128	29.0	
RETURN SPRING - DOOR HANDLE	183155	1	11STWR	.0059	.0644			.0644	.0925	.1051	10.0	
SPACER - PLASTIC	183159	1	11NY	.0004	.0020			.0020	.0029	.0033		
ASSEMBLY COST					.0580			.0580	.0833	.0946		



# 1983 AMC ALLIANCE BOARD 1

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VEHICLE- 10- AMC/RENAULT ALLIANCE

DESCRIPTION	ITEM NO.	QTY	MATERIAL	WEIGHT	VARIABLE MANUFACTURING COST			WHOLESALE CONSUMER PRICING		
					MATERIAL	LABOR	BURDEN	TOTAL	PRICE	PRICE
ASM - ARM REST	183201	1	21ASSY	1.5129	2.7837			2.7837	4.0001	4.5441
PAD - FOAM	183202	1	11PLYF	.0570	.0568			.0568	.0816	.0927
SUPPORT - FOAM	183203	1	11PLAS	.0581	.1849			.1849	.2657	.3018
REINFORCEMENT - ARM REST	183204	1	11ABS	.4737	.6921			.6921	.9945	1.1298
COVER - ARM REST	183205	1	11PVC	.7272	.5768			.5768	.8289	.9416
TRIM PLATE	183211	1	11PLAS	.1718	.5456			.5456	.7840	.8906
STUD - MOUNTING	183212	1	11CRS	.0251	.2428			.2428	.3489	.3964
ASSEMBLY COST					.4847			.4847	.6965	.7912
										89.0

VEHICLE- 10- AMC/RENAULT ALLIANCE

DESCRIPTION	ITEM NO.	QTY	MATERIAL	WEIGHT	VARIABLE MANUFACTURING COST			WHOLESALE CONSUMER TOOLING		
					MATERIAL	LABOR	BURDEN	TOTAL	PRICE	PRICE
ASM - SUNVISORS (LEFT & RIGHT)	183220	1	1:ASSY:	1.3274	2.9013			2.9013	4.1690	4.7361
ASM - LEFT SUNVISOR	183220L	1	1:ASSY:	.6570	1.0579			1.0579	1.5201	1.7269
ASM - RIGHT SUNVISOR	183220R	1	1:ASSY:	.6570	1.0579			1.0579	1.5201	1.7269
STOWING BRACKET - VISOR	183234	1	1:PLYF:	.0134	.0285			.0285	.0410	.0466
ASSEMBLY COST					.7570			.7570	1.0878	1.2357
										29.0

VEHICLE- 40- AMC/RENAULT ALLIANCE

DESCRIPTION	ITEM NO.	QTY	MATERIAL	WEIGHT	VARIABLE MANUFACTURING COST			WHOLESALE CONSUMER TOOLING		
					MATERIAL	LABOR	BURDEN	TOTAL	PRICE	PRICE
ASM - LEFT SUNVISOR	183220L	1	ASSY	.6570	1.0579			1.0579	1.5201	1.7269
HINGE ROD - VISOR	183221	1	CRS	.1705	.3305			.3305	.4749	.5395
HINGE BRACKET - VISOR	183222	1	FLYP	.0419	.0435			.0435	.0625	.0710
HINGE REINFORCEMENT - SUNVISOR	183223	1	G/ST	.1159	.1007			.1007	.1447	.1644
ROD END - EXTENSION	183224	1	ABS	.0113	.0329			.0329	.0473	.0537
WASHER	183226	1	STL	.0012	.0150			.0150	.0216	.0245
SPRING	183227	1	STWR	.0057	.0450			.0450	.0647	.0735
STIFFENER - SUNVISOR	183229	1	F/BD	.1355	.0791			.0791	.1137	.1292
COVER - SUNVISOR	183230	1	RFB	.0400	.0968			.0968	.1391	.1580
PAD - SUNVISOR	183231	1	VAR	.1608	.3084			.3084	.4432	.5035
STAPLE	183235	6	STL	.0042	.0060			.0060	.0084	.0096
ASSEMBLY COST										

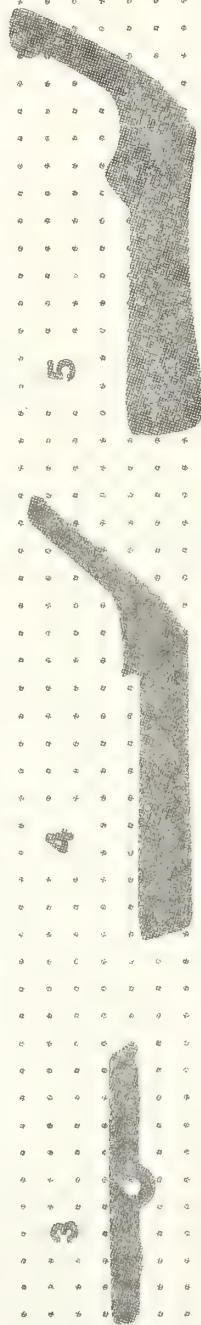


VEHICLE- 10- AMC/RENAULT ALLIANCE

DESCRIPTION	ITEM NO.	QTY	MATERIAL	WEIGHT	VARIABLE MANUFACTURING COST			WHOLESALE			CONSUMER		
					MATERIAL	LABOR	BURDEN	TOTAL	PRICE	PRICE	PRICE	PRICE	PRICE
ASM - RIGHT SUNVISOR	83220R	1	ASSY	.6570	1.0579			1.0579	1.5201		1.7269	146.5	
HINGE ROD - VISOR	83221	1	CRS	.1705	.3305			.3305	.4749		.5395	21.0	
HINGE BRACKET - VISOR	83222	1	PLY	.0119	.0435			.0435	.0625		.0710	40.0	
HINGE REINFORCEMENT - SUNVISOR	83223	1	G/ST	.1159	.1007			.1007	.1447		.1644	20.0	
ROD END - EXTENSION	83224	1	ABS	.0113	.0329			.0329	.0473		.0537	30.0	
WASHER	83226	1	STL	.0012	.0150			.0150	.0216		.0245		
SPRING	83227	1	STWR	.0057	.0450			.0450	.0647		.0735		
STIFFENER - SUNVISOR	83229	1	F/BD	.1355	.0791			.0791	.1137		.1292	15.0	
COVER - SUNVISOR	83230	1	RFB	.0400	.0968			.0968	.1391		.1580	.5	
PAD - SUNVISOR	83231	1	VAR	.1608	.3084			.3084	.4432		.5035	20.0	
STAPLE	83235	1	STL	.0042	.0060			.0060	.0084		.0096		
ASSEMBLY COST													

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# 1983 AMC ALLIANCE BOARD 2



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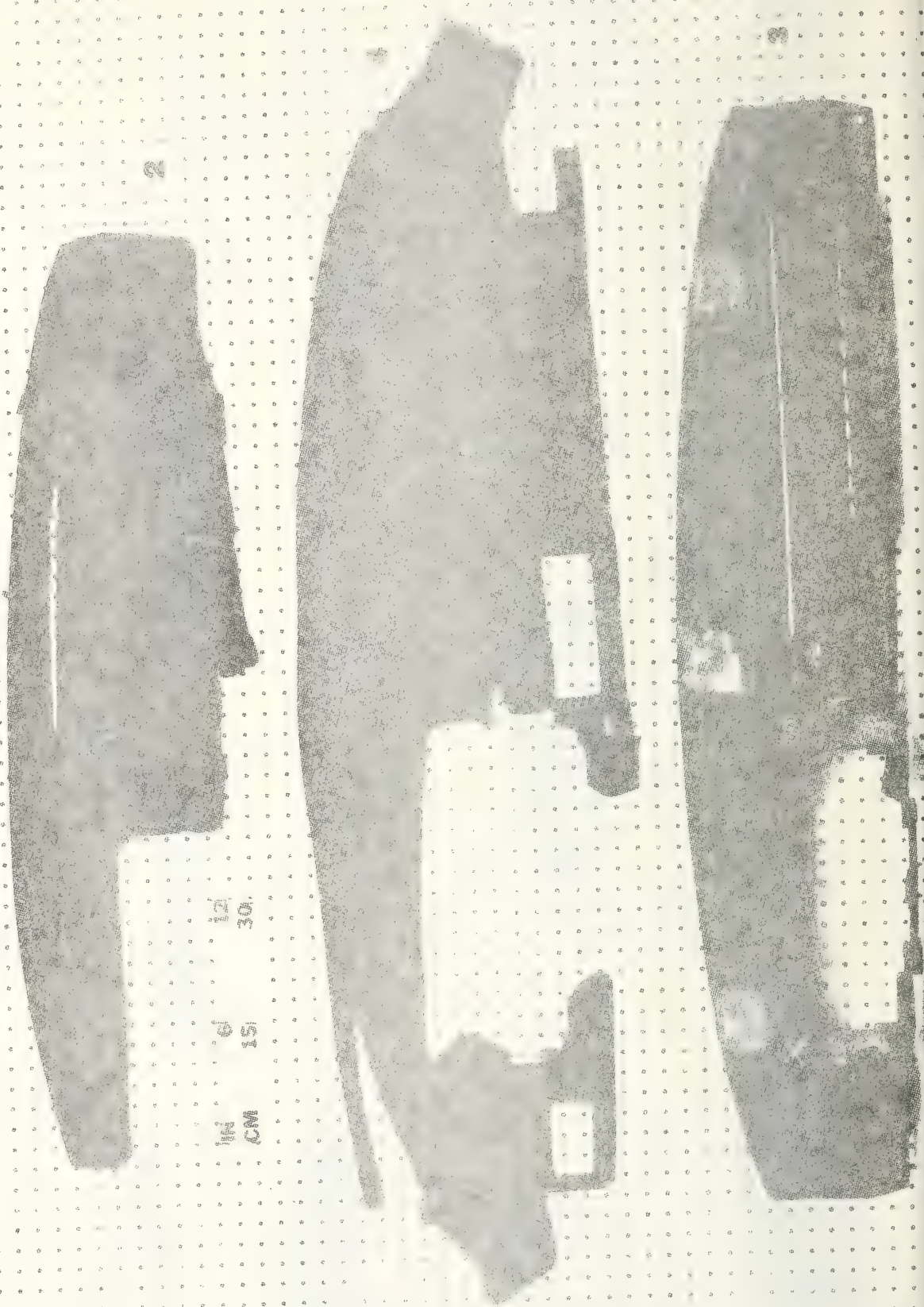
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VEHICLE- 10- AMC/RENAULT ALLIANCE

DESCRIPTION	ITEM NO.	QTY	MATERIAL	WEIGHT	VARIABLE MANUFACTURING COST			WHOLESALE CONSUMER TOOLING		
					MATERIAL	LABOR	BURDEN	TOTAL	PRICE	PRICE
ASM - INSTRUMENT PANEL PAD	183301	1	ASSY	4.7593	13.2665			13.2665	19.0639	21.6565
FOAM - INST. PNL. PAD	183302	1	PLYF	1.1609	1.5999			1.5999	2.2991	2.6118
REINFORCEMENT - INST. PNL. PAD	183303	1	ABS	2.7808	9.3319			9.3319	13.4099	15.2336
COVER - INST. PNL. PAD	183304	1	PLAS	.8176	1.4140			1.4140	2.0319	2.3082
ASSEMBLY COST					.9207			.9207	1.3230	1.5029
										64.0



**1983  
AMC ALLIANCE BOARD 3**



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VEHICLE- 10- AMC/RENAULT ALLIANCE

DESCRIPTION	ITEM NO.	QTY	MATERIAL	WEIGHT	VARIABLE MANUFACTURING COST			WHOLESALE CONSUMER TOOLING		
					MATERIAL	LABOR	BURDEN	TOTAL	PRICE	PRICE
ASM - SEAT BACK PAD (UPPER 6")	183401	1	21ASSY	.3842	.3929			.3929	.5646	.6414
MAIN PAD	183402	1	11EMRB	.3798	.3222			.3222	.4630	.5260
VELCRO PAD	183408	1	11VAR	.0044	.0707			.0707	.1016	.1154
ASSEMBLY COST										

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VEHICLE- 11- TOYOTA TERCEL

DESCRIPTION	ITEM NO.	QTY	MATERIAL	WEIGHT	VARIABLE MANUFACTURING COST			WHOLESALE CONSUMER TOOLING		
					MATERIAL	LABOR	BURDEN	TOTAL	PRICE	PRICE
TOYOTA TERCEL										
ASM - GLOVE COMPARTMENT LATCH	183101	1	1	6.7136	11.8640	.1355	.1590	42.1585	17.4717	19.8485
										1172.0
ASM - WINDOW REGULATOR HANDLE	183120	2	1	.1152	.0952	.1355	.1590	.3897	.5601	.6364
										180.0
ASM - DOOR HANDLE	183151	2	1	.1848	.7504			.7504	1.0784	1.2252
										70.0
ASM - ARM REST	183201	2	1	.4920	1.6880			1.6880	2.4256	2.7556
										182.0
ASM - SUNVISOR	183220	2	1	1.5102	1.6456			1.6456	2.3646	2.6862
										105.5
ASM - PASSENGER ASSIST HANDLE	183260	1	1	1.0566	3.8852			3.8852	5.5832	6.3428
										357.0
ASM - INSTRUMENT PANEL PAD	183301	1	1	.1782	.4488			.4488	.6449	.7327
										115.5
ASM - SEAT BACK PAD (UPPER 6")	183401	2	1	2.8086	3.0386			3.0386	4.3663	4.9600
										162.0
ASM - SEAT BACK PAD (UPPER 6")	183401	2	1	.3680	.3122			.3122	.4486	.5096

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# AMC ALLIANCE BOARD 4

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VEHICLE- 11- TOYOTA TERCEL

DESCRIPTION	ITEM NO.	QTY	MATL WEIGHT	VARIABLE MATERIAL	MANUFACTURING LABOR	BURDEN	TOTAL	WHOLESALE PRICE	CONSUMER PRICE	TOOLING 000S
ASM - GLOVE COMPARTMENT LATCH	183101	1	ASSY	.1152	.0952	.1355	.1590	.3897	.5601	.6364
HOUSING - GLOVE COMPARTMENT LATCH	183102	1	ZN	.0466	.0257	.0164	.0353	.0774	.1112	.1263
RELEASE BUTTON - GLOVE COMPT LATCH	183103	1	PLY	.0092	.0053	.0128	.0159	.0340	.0489	.0556
SPRING - RELEASE BUTTON	183104	1	STL	.0017	.0100			.0100	.0144	.0164
SPRING - RELEASE TRIGGER	183106	1	STL	.0012	.0150			.0150	.0216	.0245
RETAINER PIN	183108	2	STL	.0316	.0200			.0200	.0288	.0328
KNOB - GLOVE COMPT LATCH HSG	183109	1	ZN	.0176	.0099	.0116	.0265	.0480	.0690	.0784
LATCH - GLOVE COMPT.	183112	1	CRS	.0073	.0077	.0029	.0158	.0264	.0379	.0431
ASSEMBLY COST					.0016	.0718	.0655	.1589	.2283	.2593



VEHICLE- 44- TOYOTA TERCEL

DESCRIPTION	ITEM NO.	QTY	MATL	WEIGHT	VARIABLE MANUFACTURING COST			WHOLESALE CONSUMER TOOLING		
					MATERIAL	LABOR	BURDEN	TOTAL	PRICE	PRICE
ASM - WINDOW REGULATOR HANDLE	183120	1	21ASSY	.0924	.3752			.3752	.5392	.6126
HANDLE - WINDOW REGULATOR	183121	1	1PVC	.0682	.1810			.1810	.2601	.2955
KNOB - WINDOW REGULATOR	183123	1	1PVC	.0242	.1258			.1258	.1808	.2054
ASSEMBLY COST					.0684			.0684	.0983	.1117
										5.0

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VEHICLE- 11- TOYOTA TERCEL

DESCRIPTION	ITEM NO.	QTY	MATL	WEIGHT	VARIABLE MANUFACTURING COST			WHOLESALE CONSUMER TOOLING		
					MATERIAL	LABOR	BURDEN	TOTAL	PRICE	PRICE
ASM - DOOR HANDLE	183151	1	21ASSY	.2460	.8440			.8440	1.2128	1.3778
HOUSING - DOOR HANDLE	183152	1	1PLAS	.0519	.1072			.1072	.1540	.1749
HANDLE	183153	1	1PLAS	.0341	.0745			.0745	.1071	.1217
RETAINER PIN - DOOR HANDLE	183157	2	1CRS	.0166	.0524			.0524	.0752	.0854
BRACKET - DOOR HANDLE	183160	1	1HRS	.1240	.1995			.1995	.2837	.3257
PAWL - DOOR HANDLE	183164	1	1PVC	.0011	.0146			.0146	.0210	.0239
SELF TAPPING SCREW	183166	1	1STL	.0017	.0050			.0050	.0072	.0082
LOCK - DOOR HANDLE	183167	1	1PLAS	.0166	.0904			.0904	.1299	.1476
ASSEMBLY COST					.3004			.3004	.4317	.4904
										5.0

# 1983 TOYOTA TERCEL BOARD 1

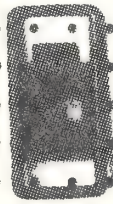
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VEHICLE- 11- TOYOTA TERCEL

DESCRIPTION	ITEM NO.	QTY	MATL	WEIGHT	MATERIAL	LABOR	BURDEN	MANUFACTURING COST	TOTAL	WHOLESALE PRICE	CONSUMER PRICE	TOOLING
ASM - ARM REST	183201	1	21	ASSY	.7551	.8228			.8228	1.1823	1.3431	105.5
SUPPORT (SECTION OF DOOR PANEL)	183203	1	11	PLYP	.2974	.2418			.2418	.3475	.3948	
REINFORCEMENT - ARM REST	183204	1	11	G/ST	.1393	.1486			.1486	.2135	.2425	25.0
COVER - ARM REST	183205	1	11	PVC	.2671	.2866			.2866	.4118	.4678	55.0
ASSIST HANDLE	183210	1	11	PLYP	.0513	.0599			.0599	.0861	.0978	25.0
ASSEMBLY COST						.0859			.0859	.1234	.1402	.5



VEHICLE- 11- TOYOTA TERCEL

DESCRIPTION	ITEM NO.	QTY	MATERIAL	WEIGHT	VARIABLE MANUFACTURING COST				WHOLESALE/ CONSUMER TOOLING		
					MATERIAL	LABOR	BURDEN	TOTAL	PRICE	PRICE	000S
ASM - SUNVISOR	183220	1	21ASSY	.5283	1.9426			1.9426	2.7916	3.1714	357.0
HINGE ROD - SUNVISOR	183221	1	1CRS	.1005	.4325			.4325	.6215	.7060	25.0
HINGE BRACKET - SUNVISOR	183222	1	1PLYF	.0178	.0452			.0452	.0650	.0738	40.0
HINGE REINFORCEMENT - SUNVISOR	183223	1	1CRS	.0481	.0757			.0757	.1088	.1236	75.0
WASHER	183226	1	1STL	.0013	.0010			.0010	.0014	.0016	
SPRING	183227	1	1STWR	.0050	.0200			.0200	.0287	.0326	
CLIP - SUNVISOR	183228	1	1CRS	.0071	.0147			.0147	.0211	.0240	15.0
STIFFENER - SUNVISOR	183229	1	1WIRE	.1474	.0672			.0672	.0966	.1097	10.0
COVER - SUNVISOR	183230	1	21VNL	.0958	.1920			.1920	.2760	.3136	15.0
PAD - SUNVISOR	183231	1	21PLYF	.0528	.1346			.1346	.1934	.2198	15.0
STOWING BRACKET - SUNVISOR	183234	1	1PLYF	.0165	.0440			.0440	.0632	.0718	40.0
ROLLER - SUNVISOR	183243	1	1PLYF	.0019	.0259			.0259	.0372	.0423	30.0
HINGE REINF. COVER - SUNVISOR	183244	1	1PLYF	.0292	.0503			.0503	.0723	.0821	50.0
SCREW	183245	1	1STL	.0049	.0500			.0500	.0719	.0817	
ASSEMBLY COST					.7895			.7895	1.1345	1.2888	42.0

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VEHICLE- 11- TOYOTA TERCEL

DESCRIPTION	ITEM NO.	QTY	MATERIAL	WEIGHT	VARIABLE MANUFACTURING COST			WHOLESALE CONSUMER JOOLNG		
					MATERIAL	LABOR	BURDEN	TOTAL	PRICE	PRICE
ASM - PASSENGER ASSIST HANDLE	183260	1	ASSY	.1782	.4488			.4488	.6449	.7327
PLUG - PASS. ASSIST HANDLE	183264	2	PVC	.0058	.0384			.0384	.0552	.0628
ASM - PASS. ASSIST HANDLE COVER	183265	1	ASSY	.1724	.2033			.2033	.2921	.3318
ASSEMBLY COST					.2071			.2071	.2976	.3381
										5.0

VEHICLE- 11- TOYOTA TERCEL

DESCRIPTION	ITEM NO.	QTY	MTRL	WEIGHT	VARIABLE MANUFACTURING COST			WHOLESALE CONSUMER TOOLING		
					MATERIAL	LABOR	BURDEN	TOTAL	PRICE	PRICE
ASM - PASS. ASSIST HANDLE COVER	183265	1	1	ASSY	.1724	.2033		.2033	.2921	.3318
COVER - PASS. ASSIST HANDLE	183262	1	1	PVC	.1350	.0860		.0860	.1236	.1404
REINFORCEMENT - PASS. ASSIST HANDLE	183263	1	1	PLAS	.0374	.0923		.0923	.1326	.1506
ASSEMBLY COST					.0250			.0250	.0359	.0408
										.5

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TOYOTA TERCEL BOARD 2



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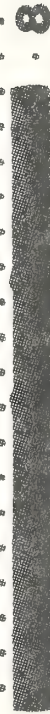
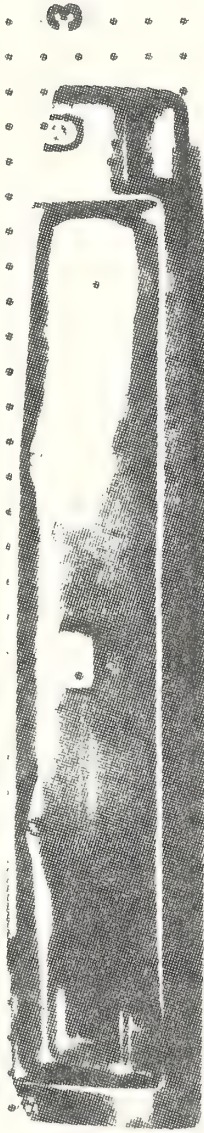
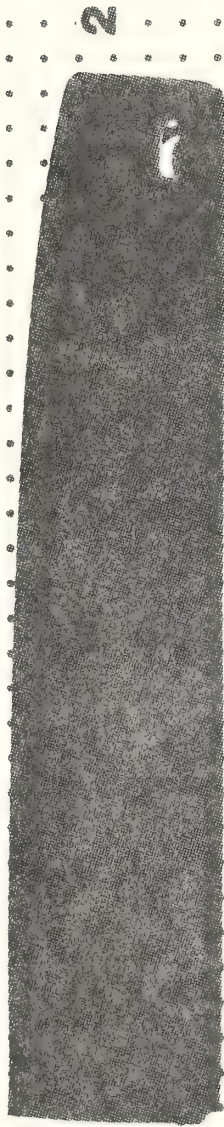
VEHICLE- 11- TOYOTA TERCEL

DESCRIPTION	ITEM NO.	QTY	MATERIAL	WEIGHT	MATERIAL	LABOR	BURDEN	VARIABLE MANUFACTURING COST			WHOLESALE CONSUMER		
								TOTAL	PRICE	PRICE	PRICE	PRICE	PRICE
ASM - INSTRUMENT PANEL PAD	183301	1	1	1	1	1	1	3.0386	4.3663	4.9600	162.0		
PADDING - FOAM	183302	1	1	1	1	1	1	.8398	1.2068	1.3709			
BASE SUPPORT - INST. PANEL PAD	183303	1	1	1	1	1	1	.7381	1.0606	1.2048	75.0		
ASM - BASE SUPPORT	183315	1	1	1	1	1	1	.6889	.9898	1.1244	52.0		
ASSEMBLY COST								.7718	1.1091	1.2599	35.0		

VEHICLE- 11- TOYOTA TERCEL

DESCRIPTION	ITEM NO.	QTY	MATERIAL	WEIGHT	VARIABLE MANUFACTURING COST			WHOLESALE CONSUMER TOOLING		
					MATERIAL	LABOR	BURDEN	TOTAL	PRICE	PRICE
ASM - BASE SUPPORT	183315	1	ASSY	.5901	.6889			.6889	.9898	1.1244
REINFORCEMENT SUPPORT	183308	1	CRS	.4813	.3100			.3100	.4455	.5061
STUD - REINFORCEMENT	183313	6	STL	.0420	.1200			.1200	.1722	.1956
REINFORCEMENT BRACKET	183314	1	CRS	.0668	.0706			.0706	.1015	.1153
ASSEMBLY COST					.1883			.1883	.2706	.3074

# 1983 TOYOTA TERCEL BOARD 3



IN 6' 12' 13' 1  
CM 15' 30'



VEHICLE-- 41-- TOYOTA TERCEL

DESCRIPTION	ITEM NO.	QTY	MATERIAL	WEIGHT	VARIABLE MANUFACTURING COST			TOTAL			WHOLESALE CONSUMER TOOLING		
					MATERIAL	LABOR	BURDEN	MATERIAL	LABOR	BURDEN	PRICE	PRICE	000S
ASM - SEAT BACK PAD (UPPER 6")	183401	2	ASSY	.1840	.1561			.1561			.2243		.2548
MAIN PAD	183402	1	FMKR	.1840	.1561			.1561			.2243		.2548
ASSEMBLY COST													



VEHICLE- 12- NISSAN SENTRA

DESCRIPTION	ITEM NO.	QTY	MATERIAL	WEIGHT	VARIABLE MANUFACTURING COST			WHOLESALE CONSUMER TOOLING			
					MATERIAL	LABOR	BURDEN	TOTAL	PRICE	PRICE	000S
NISSAN SENTRA											
ASM - GLOVE COMPARTMENT LATCH	183101	1	1	4.3589	9.5737	.2047	.1943	9.9727	14.3309	16.2802	1047.0
					.0628	.1129	.1275	.3032	.4358	.4951	197.0
ASM - WINDOW REGULATOR HANDLE	183120	2	1	.1848	.7504			.7504	1.0784	1.2252	70.0
ASM - DOOR HANDLE	183151	2	1	.2768	.9234			.9234	1.3270	1.5076	139.0
ASM - ARM REST	183201	2	1	.4064	.6860			.6860	.9858	1.1200	55.0
ASM - SUNVISOR	183220	2	1	.7768	2.8414			2.8414	4.0830	4.6392	320.0
HANDLE - PASSENGER ASSIST	183260	1	1	.1157	.2410			.2410	.3032	.3444	50.0
ASM - INSTRUMENT PANEL PAD	183301	1	1	1.7500	3.2285			3.2285	4.6393	5.2703	216.0
ASM - SEAT BACK PAD (UPPER 6")	183401	2	1	.8058	.8702	.0918	.0668	1.0288	1.4784	1.6794	
ASSEMBLY COST											

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VEHICLE- 12- NISSAN SENTRA

DESCRIPTION	ITEM NO.	QTY	MATERIAL	WEIGHT	VARIABLE MANUFACTURING COST			WHOLESALE/ CONSUMER/ TOOLING		
					MATERIAL	LABOR	BURDEN	TOTAL	PRICE	PRICE
ASM - GLOVE COMPARTMENT LATCH	183101	1	ASSY	.0426	.0628	.1129	.1275	.3032	.4358	.4951
HOUSING - GLOVE COMPT. LATCH	183102	1	FLYP	.0116	.0075	.0064	.0078	.0217	.0312	.0354
SPRING - RELEASE TRIGGER	183106	1	STWR	.0002	.0300			.0300	.0431	.0490
KNOB - GLOVE COMPT. LATCH	183109	1	FLYP	.0156	.0105	.0255	.0337	.0697	.1002	.1138
LATCH - GLOVE COMPT.	183112	2	ZN	.0150	.0088	.0196	.0442	.0726	.1044	.1186
ROLL PIN	183119A	1	STL	.0002	.0050			.0050	.0072	.0082
ASSEMBLY COST					.0010	.0614	.0418	.1042	.1497	.1701
										.20

VEHICLE- 12- NISSAN SENTRA

DESCRIPTION	ITEM NO.	QTY	MATERIAL	WEIGHT	VARIABLE MANUFACTURING COST			TOTAL			WHOLESALE CONSUMER TOOLING		
					MATERIAL	LABOR	BURDEN	MATERIAL	LABOR	BURDEN	PRICE	PRICE	000S
ASM - WINDOW REGULATOR HANDLE	183120	1	21ASSY	.0924	.3752			.3752			.5392	.6126	70.0
HANDLE - WINDOW REGULATOR	183121	1	11PVC	.0682	.1810			.1810			.2601	.2955	35.0
KNOB - WINDOW REGULATOR	183123	1	11PVC	.0242	.1258			.1258			.1808	.2054	30.0
ASSEMBLY COST					.0684			.0684			.0983	.1117	5.0



VEHICLE- 12- NISSAN SENTRA

DESCRIPTION	ITEM NO.	QTY	MATERIAL	WEIGHT	VARIABLE MANUFACTURING COST			TOTAL			WHOLESALE CONSUMER TOOLING		
					MATERIAL	LABOR	BURDEN	PRICE	PRICE	PRICE	PRICE	PRICE	PRICE
ASM - DOOR HANDLE	183151	2	ASSY	.1384	.4617			.4617	.6635		.7538	139.0	
HANDLE - DOOR	183153	1	FVC	.0383	.0674			.0674	.0969		.1101	20.0	
RETURN SPRING - DOOR HANDLE	183155	1	STWR	.0009	.0705			.0705	.1013		.1151	2.0	
RETAINER PIN - DOOR HANDLE	183157	1	CRS	.0134	.0206			.0206	.0296		.0336	2.0	
BRACKET - DOOR HANDLE	183160	1	G/ST	.0850	.0982			.0982	.1411		.1603	80.0	
PAWL - DOOR HANDLE	183164	1	FVC	.0008	.0144			.0144	.0207		.0235	30.0	
ASSEMBLY COST					.1906			.1906	.2739		.3112	5.0	

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# 1983 NISSAN SENTRA BOARD 1

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VEHICLE- 12- NISSAN SENTRA

DESCRIPTION	ITEM NO.	QTY	MATL	WEIGHT	VARIABLE MANUFACTURING COST			WHOLESALE			CONSUMER TOOLING		
					MATERIAL	LABOR	BURDEN	TOTAL	PRICE	PRICE	PRICE	PRICE	000S
ASM - ARM REST	83201	1	21ASSY	.2032	.3430			.3430	.4929		.5600		55.0
FAD	83202	1	11PLYF	.0548	.0430			.0430	.0618		.0702		
SUPPORT - ARM REST	83203	1	11PLAS	.0575	.1120			.1120	.1609		.1828		30.0
COVER	83205	1	11VNL	.0909	.0540			.0540	.0776		.0882		
ASSEMBLY COST					.1340			.1340	.1926		.2188		25.0

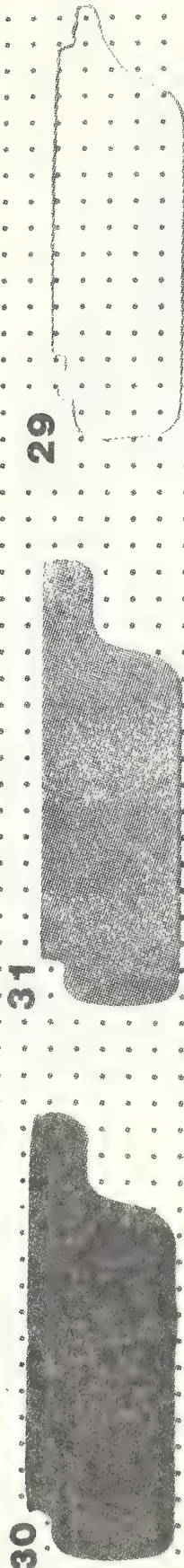
VEHICLE- 12- NISSAN SENTRA

DESCRIPTION	ITEM NO.	QTY	MATERIAL	WEIGHT	VARIABLE MANUFACTURING COST			WHOLESALE CONSUMER TOOLING		
					MATERIAL	LABOR	BURDEN	TOTAL	PRICE	PRICE
ASM - SUNVISOR	183220	1	21ASSY	.3884	1.4207			1.4207	2.0415	2.3191
HINGE ROD - SUNVISOR	183221	1	11PLAS	.0187	.0322			.0322	.0463	.0526
HINGE BRACKET - VISOR	183222	1	11FLYP	.0213	.0482			.0482	.0693	.0787
HINGE REINFORCEMENT - SUNVISOR	183223	1	11ABS	.0260	.0601			.0601	.0864	.0982
ROD END EXTENSION	183224	1	11ABS	.0042	.0160			.0160	.0230	.0261
CLIP - SUNVISOR	183228	1	11CRS	.0097	.0206			.0206	.0296	.0336
STIFFENER - SUNVISOR	183229	1	11WIRE	.1351	.0635			.0635	.0912	.1036
COVER - SUNVISOR	183230	1	21VNL	.1056	.2082			.2082	.2992	.3398
PAD - SUNVISOR	183231	1	21FLYP	.0346	.1308			.1308	.1880	.2136
STOWING BRACKET - SUNVISOR	183234	1	11FLYP	.0181	.0454			.0454	.0652	.0741
FASTENER - STOW POST	183240	1	11CRS	.0094	.0248			.0248	.0356	.0404
TAPE	183246	1	11FAP	.0004	.0010			.0010	.0014	.0016
COVER - STOWING BRACKET	183247	1	11FLYP	.0053	.0223			.0223	.0320	.0364
ASSEMBLY COST					.7476			.7476	1.0743	1.2204



1983

NISSAN SENTRA BOARD 2



VEHICLE- 12- NISSAN SENTRA

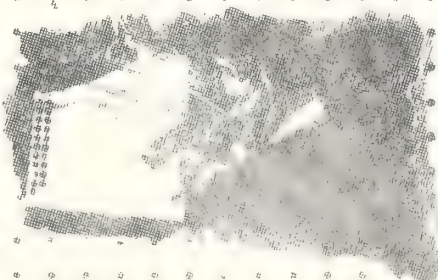
DESCRIPTION	ITEM NO.	QTY	MATERIAL	WEIGHT	VARIABLE MANUFACTURING COST			WHOLESALE			CONSUMER TOOLING		
					MATERIAL	LABOR	BURDEN	TOTAL	PRICE	PRICE	PRICE	PRICE	000S
ASM - INSTRUMENT PANEL PAD	183301	1	ASSY	1.7500	3.2285			3.2285	4.6393		5.2703	216.0	
FOAM PAD - INSTRUMENT PANEL	183302	1	PLYF	.5003	.6894			.6894	.9907		1.1254		
BASE SUPPORT - INST. PANEL	183303	1	CRS	.4875	.2883			.2883	.4143		.4706	75.0	
COVER - INSTRUMENT PANEL PAD	183304	1	PLAS	.5003	1.0210			1.0210	1.4672		1.6667	27.0	
BASE SUPPORT (UPPER) - INST. PNL	183311	1	CRS	.2531	.1891			.1891	.2717		.3087	50.0	
RETAINER CLIP	183312	4	STL	.0088	.1200			.1200	.1724		.1960		
ASSEMBLY COST					.9207			.9207	1.3230		1.5029	64.0	

1983  
NISSAN SENTRA BOARD 3

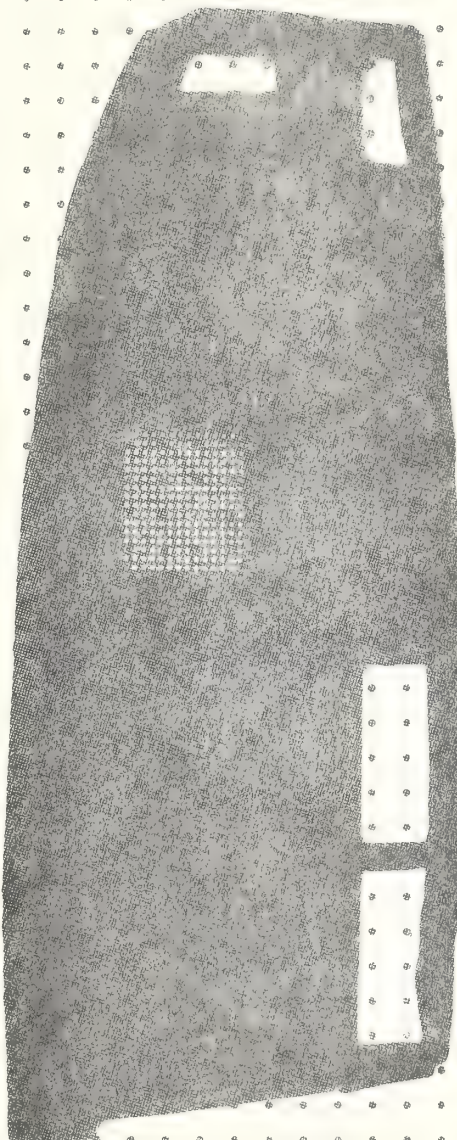
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IN

CM



VEHICLE- 12- NISSAN SENTRA

DESCRIPTION	ITEM NO.	QTY	MATL	WEIGHT	VARIABLE MANUFACTURING COST			WHOLESALE CONSUMER TOOLING		
					MATERIAL	LABOR	BURDEN	TOTAL	PRICE	PRICE
ASM - SEAT BACK PAD (UPPER 6")	183401	2	ASSY	.4029	.4351	.0459	.0334	.5144	.7392	.8397
MAIN PAD	183402	1	FMRR	.3929	.3333			.3333	.4790	.5441
MAIN PAD & BATTEN	183407	1	VAR	.0100	.1018	.0459	.0334	.1811	.2602	.2956
ASSEMBLY COST										



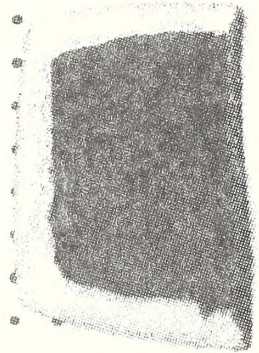
1983

# NISSAN SENTRA BOARD 4

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4 ОУАОВ АРТИЗМ И АСШИ

1983

TL 242 .083 V

Osen, William

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